Force

The Key to Capturing Life Through Drawing

BY
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An exercise I do in class is to have the model pose for five minutes. For the first minute, I have the students write what their goals are going to be in drawing the model. I have them list the goals in a hierarchal manner. Then, for the last four minutes, they draw the model and achieve the goals they have written.

2. *Directional Force: a beginning, middle, and end*

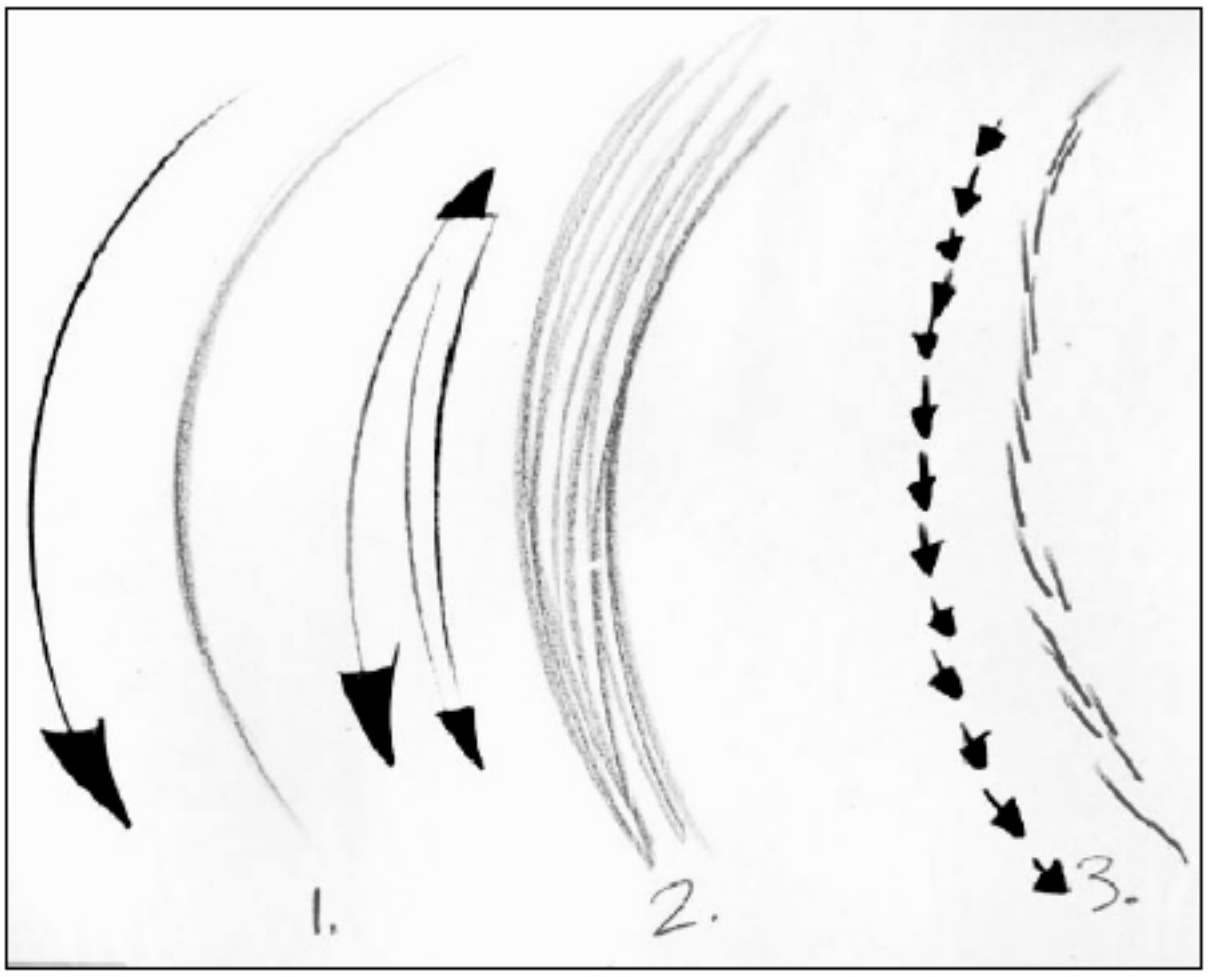
Using the comparison of a writer to an artist, to express our ideas we must understand our drawn language via its own vocabulary. The more vast our vocabulary, the clearer, more intelligent, and expressive our thoughts. There are no great writers without the knowledge to write.

Our language throughout this book is drawing and our understanding of line is our control of that language. The strength of line is immeasurable. To harness its power, though, one must understand how to see energy or force. Draw the verbs of the figure. This is where we want to direct our concentration. Draw what the body is doing, not just the body. While having an internal dialogue, think "the stretching arm or thrusting hip," not "the arm is here and it's this thick and look at the shadow on it."

As important as line is, remember that the drawings are not about line. They are about ideas. The line is your idea. Don't do a drawing for the sake of beautiful lines. Create a drawing that expresses your ideas and opinions.

Here is the type of line that most describes force in the body.

a. *One line per energy or idea*



1. Here is our curved line with force and direction. The one line addresses one idea. The line starts somewhere, does something, and goes somewhere. This is achieved with a confident stroking of the paper with the pencil. The arrow example shows you the direction of the energy or its path. This is *directional force.*

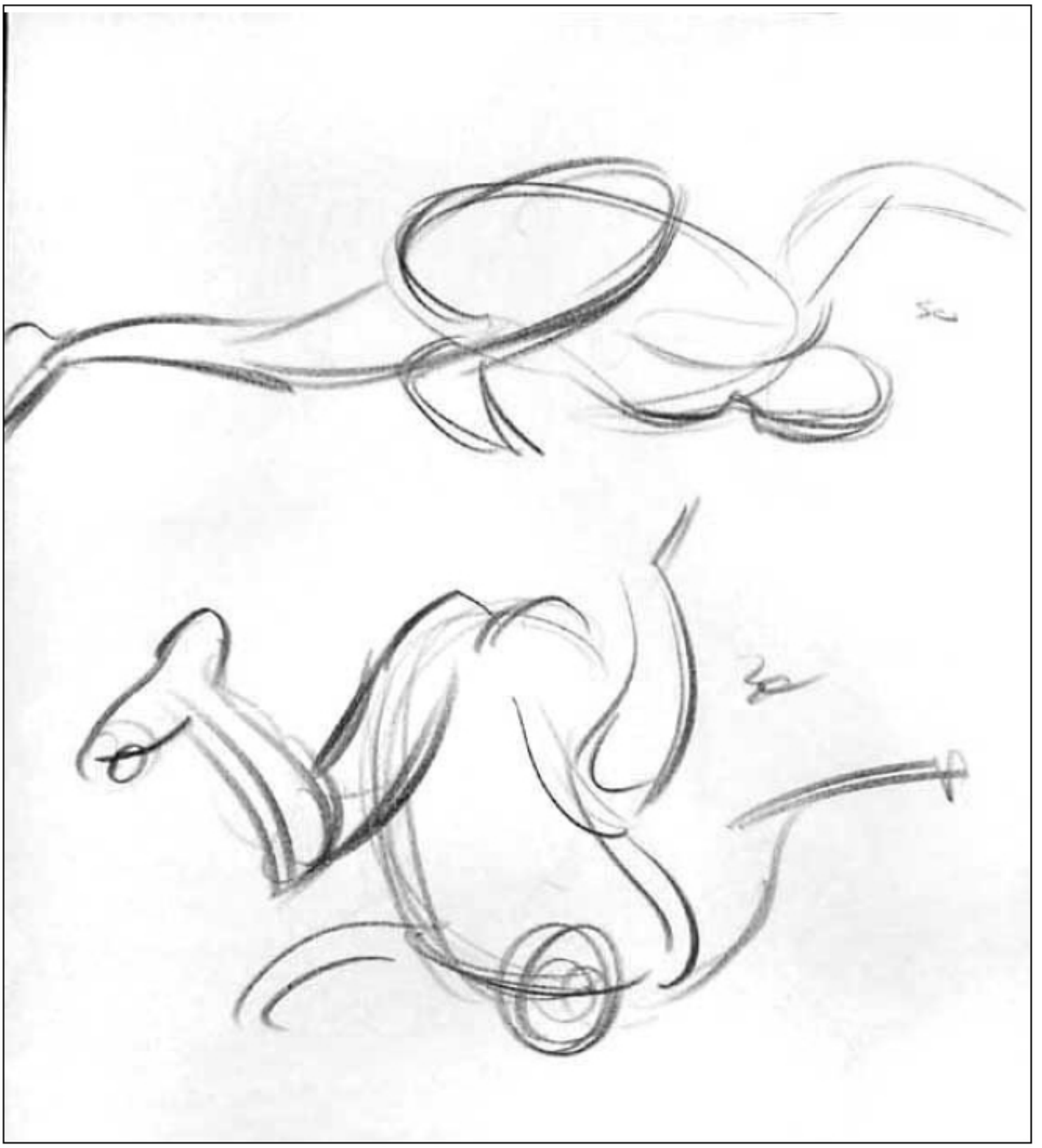
2. This is our first student habit. It is sketchy and created by backward and forward motion. No direction. The line, or more importantly, its idea, does not start somewhere, have a purpose, and go somewhere. There is no clear idea.
3. This is the infamous hairy line. Uncertainty takes us from one place to another through thousands of minuscule thoughts instead of drawing one line per idea. Doing this never gives you the opportunity to move on to bigger issues or feel force and direction in your hand and mind.

Forewarning: Don't think that I am talking about being uptight with the line. You don't have to get it right the first time. Let your hand sweep over the paper's surface in the directions the model is moving until you have absorbed the pose's idea. Then start making your marks by slowly applying pressure to the paper with the pencil while you are still in motion. Notice how you can control the line's value. This discipline of mark making is of tremendous value because when you draw, your head will already be thinking about where energy is coming from, what it is doing, and where it is going. Feel liberated and excited, and be aggressive.

b. Draw small, think big

I have found that drawing small in the beginning can be helpful to the learning process. You are drawing thumbnails of ideas about the pose. It is your time to think and it also helps liberate you from feeling committed to your drawing. It's great to draw and redraw that main idea. Draw small and think big. Everything piles onto this foundation. At Disney, many of the great animators would thumbnail their scenes out first. This is a great way to see the big picture or whole story. It is also easy to make changes at this time.

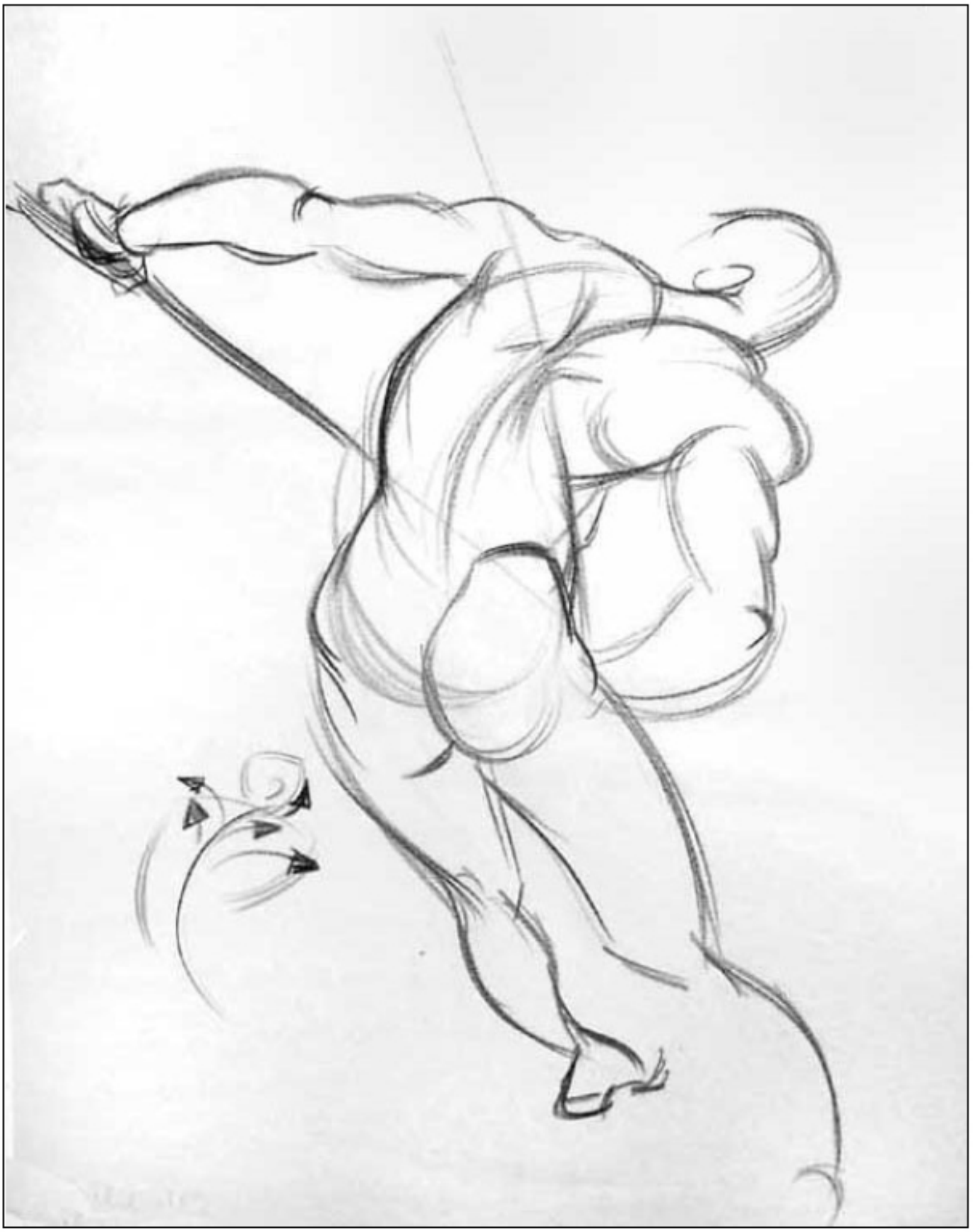
In the following drawings, the arrows represent what your drawings should be about, the main idea or force of the pose. If you are having a hard time finding the curve, try drawing two curves that are opposite each other, one convex and one concave, to see which resembles the figure's main force the most. One of the curves will fit into the puzzle in front of you and the other will be opposing the model's movement. They are generic now, but this will give you an introduction to force. These drawings are usually done in thirty seconds to five minutes. The first force you should look for is the one that tells us the idea behind the connection between the ribcage and the pelvis. Here are some thirty-second drawings to show you my initial reaction to the model's movements.



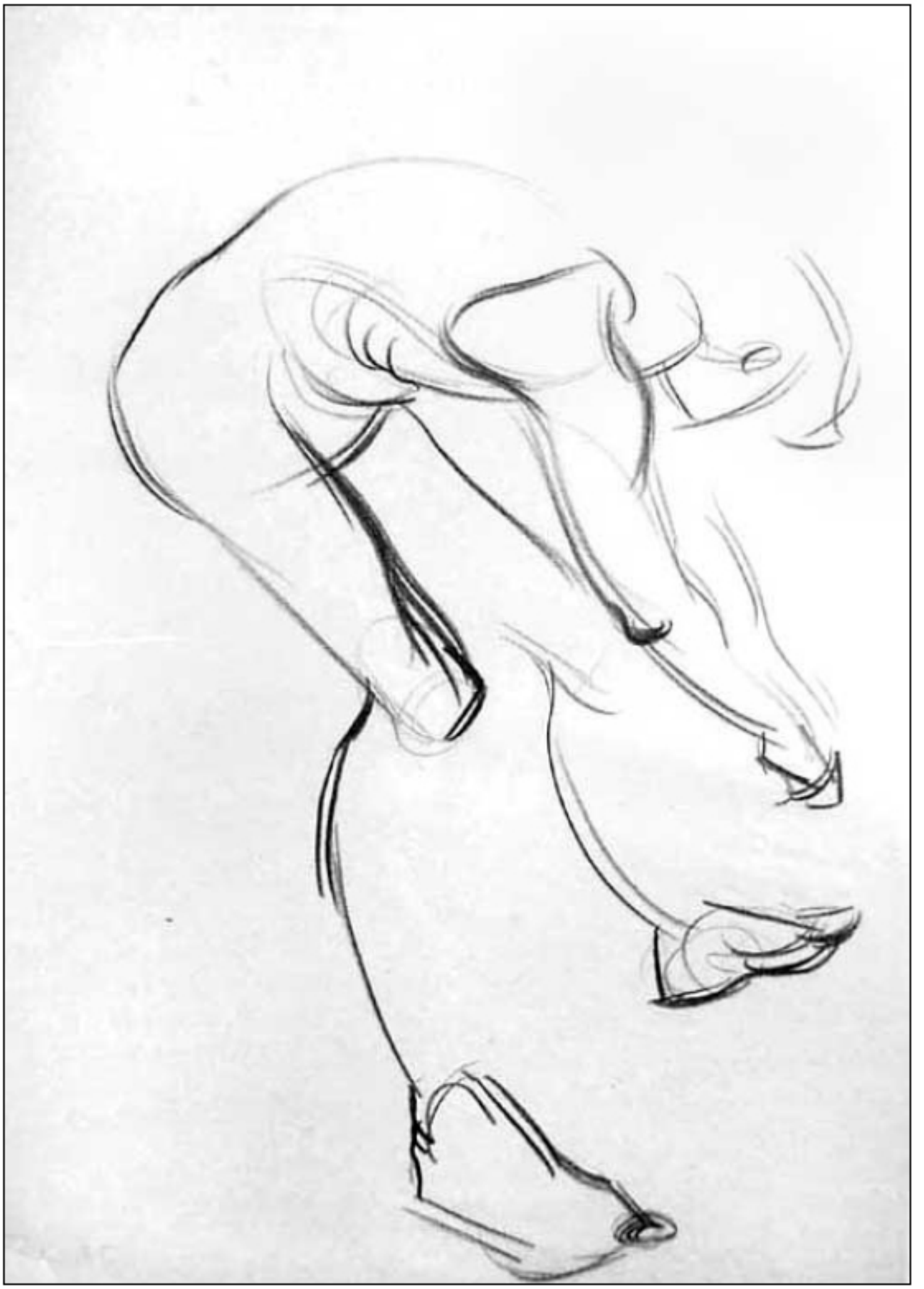
Notice how much information can be explained in thirty seconds. The hierarchy of the pose, or its entire story, is revealed. All parts of the body connect as one.

You want your initial idea to be the largest statement the pose gives you. This is the first step in getting away from copying instead of drawing something you see and understand.

See the power of the directional curves. I do a great deal of drawing through the model to understand where forces begin and end. Above the main drawing are simplifications of the pose using curves of force.
1. and 2. are examples of picking a curve for the direction of the upper body.
See how drawing 2. works because the model is obviously moving towards his right knee. Draw 3. is the same as 2.
4. was to show an awareness of tangents, a topic I will cover in more detail later. This is a close-up of the model's jaw and center of the chest. These two moments would have been flattened if the two ideas were drawn with one line.



This drawing by Barrett captures the vigor of the pose. The cumulative energy of the back sweeps up into the musculature of the upper body and disperses to the arms and head. It's like shooting fireworks, as the thumbnail shows.



The model has a pull from his hands up through his back and down into his feet. The focal point of force here, or the apex of the directional curve, is the lower back. If the model were to let go, this is the direction he would fall in.

I'm so happy that I had to go through the struggles I did in my attempts to understand this pose. Look at these drawings in the order they are numbered.

In drawing 1. we have the beginning of force in the left side of the model's upper back. I was disgusted with the mediocrity of this drawing. The model was so much more alive and aggressive than my weak depiction of him. Also, the motivation for the push in the back begins at the right deltoid.

In drawing 2. the directional force is more aggressive. Its curve is stronger. There is more thrust into the left side of the back and here we witness more reaction of this force in the remainder of the back's musculature.

Finally, in my third venture, the main idea has extended much further. Now we see that the pose is about the inward thrust of the lower ribcage against the upward energy in the right arm. This combination of forces is what creates the strain in the upper back and pushes the left shoulder out. This page is a great example of:

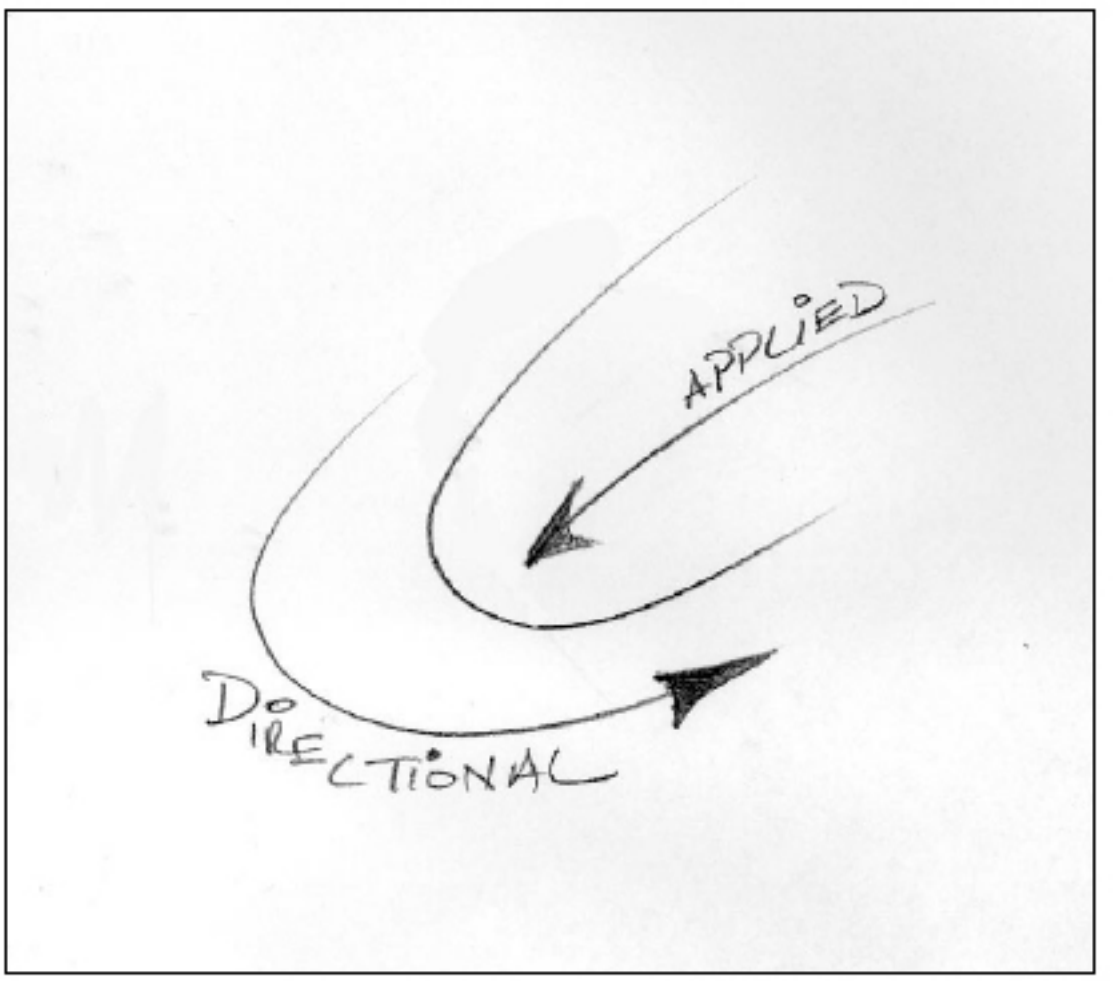
1. Investigating a pose to gain understanding.
2. Searching for how far a force travels and its true motivation.
3. Not settling for the first attempt. Keep working at a drawing until it feels like the model's effort. It is easy to obtain mediocrity and challenging to stare into the visage of splendor.

"I am not discouraged, because every wrong attempt discarded is another step forward."
Thomas Edison

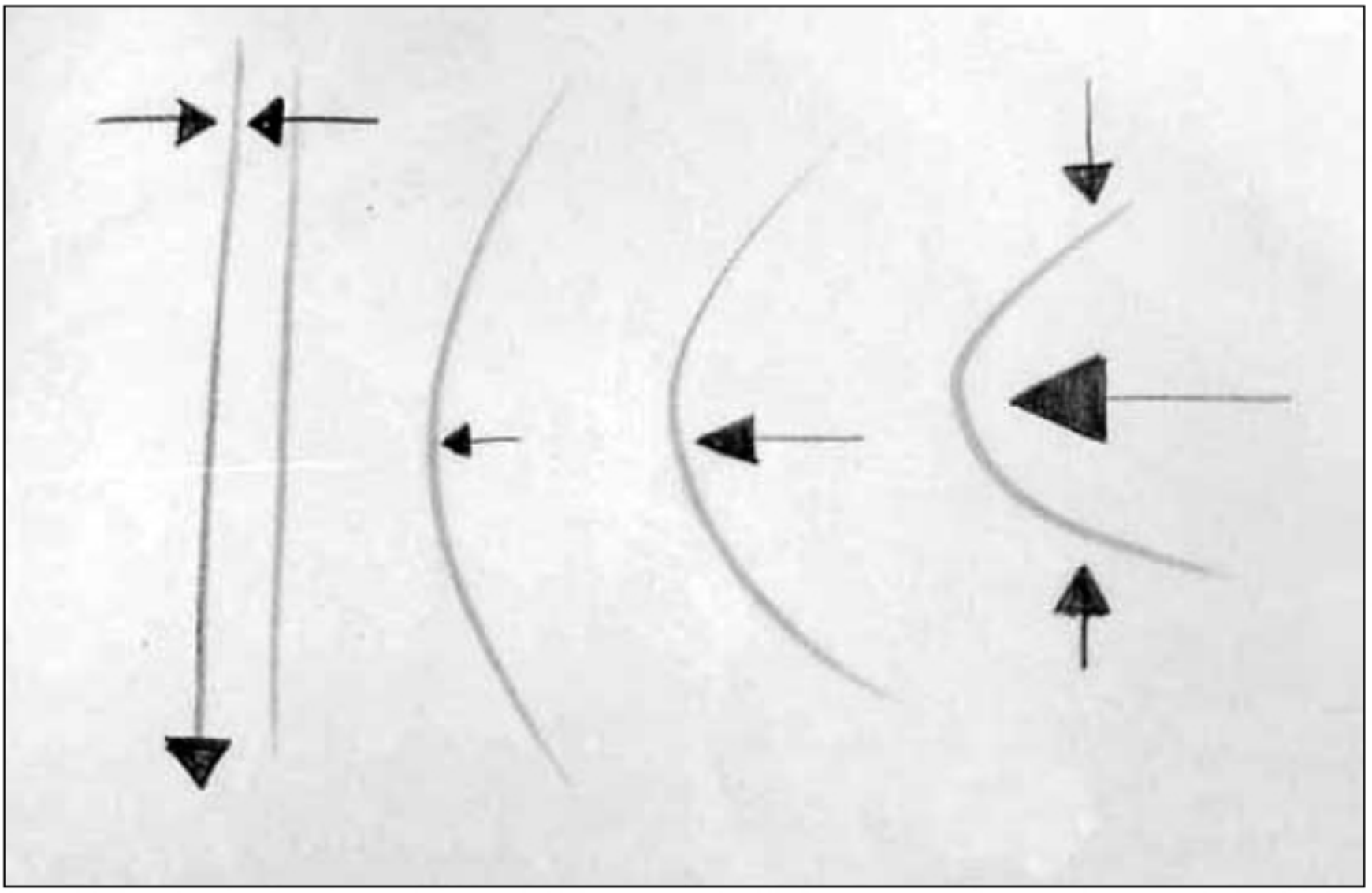
3. Applied force

Besides the line giving us a linear direction or path of force, it also tells us how much force is being applied upon it. This is extremely important because the force applied upon the line will be a previous directional force. That previous directional force dictates how strong the applied force is.

These concepts are proven to us in everyday reality through physics. If these lines were roads, you would obviously be able to drive your car through a straightaway faster than you would through a curve. The tighter a curve is, the more you have to decelerate to drive through it. When driving through the curve, the place where you would feel the most amount of force would be at its apex. The force would diminish as you pulled out of it, allowing you to gain speed. Let's look at this in line.



The drawing above presents us with a line that starts with much speed (by its straightness) and then slows through the curve. We also see that the line shows us a mass that is bottom heavy because of where the apex of the curve is located on the line. The attitude or direction of the mass is pushing in the direction of the grey arrow on the right, which represents applied force. Now, if we look at both of the arrows, we get a sense of purpose from the line that takes the mass down and to the left and then directs us to the right.



In talking about the amount of force being applied upon a line, we can use the analogy of a flexible metal bar. The curvature of a line tells us how much force it is revealing to us. The line on the left is stretched between two points and shows us speed. The line on the far right has the most amount of force applied to it because of how strong its curvature is. In animation terms, it is "squashed," which tells us that there is force pushing on it from above and below. The mass being pushed on is thrusting out, shown to us by the curve. This curved directional force is also slower than the first force.

Curved lines are more forceful than straights since they clearly show us directional and applied forces.

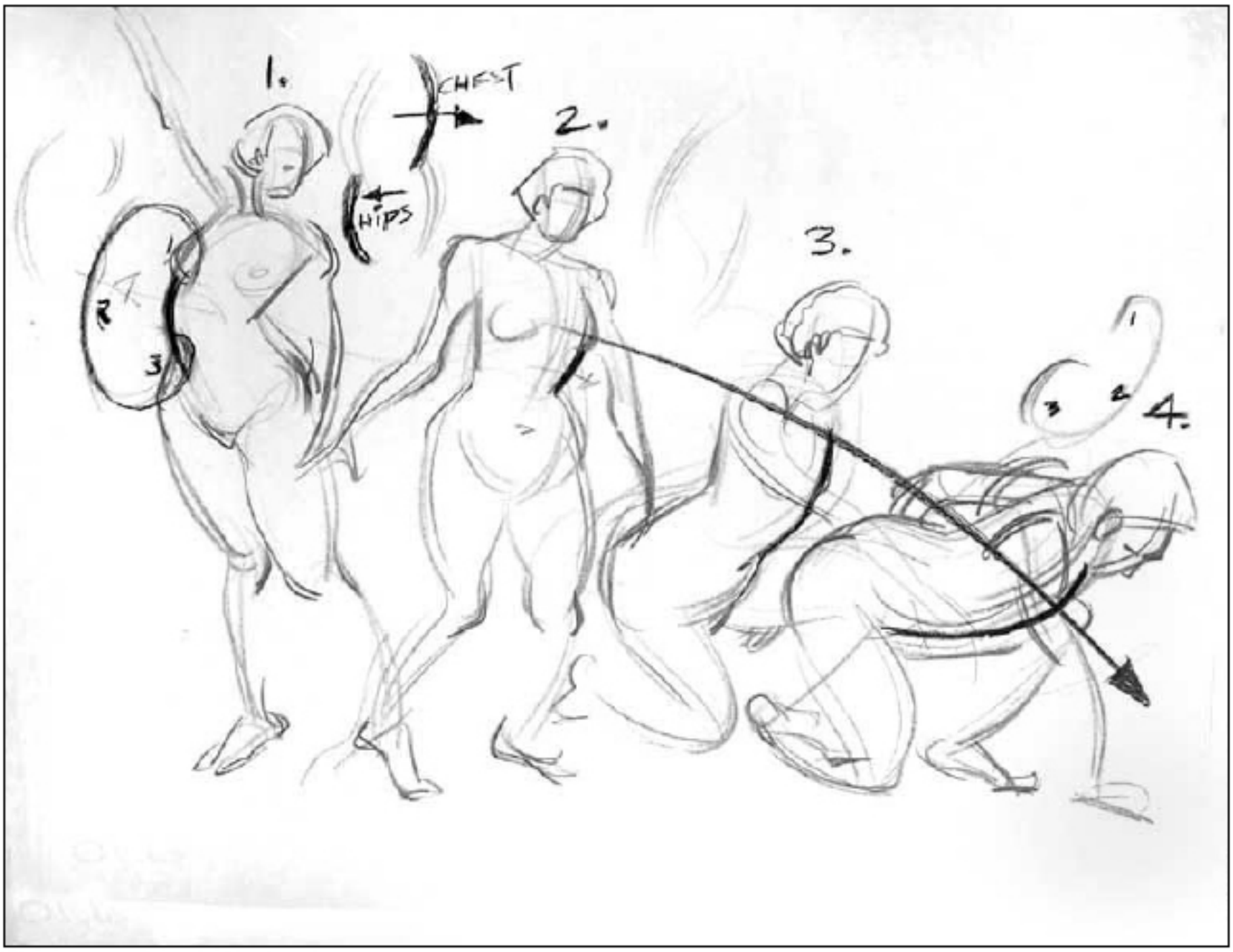
Here is a clear example of applied force. Look at how strongly it is pushing up into the hip. I also described the rhythm of the right leg shooting up into that hip.

I want you to see the differences between the effects of straight lines versus curved ones.

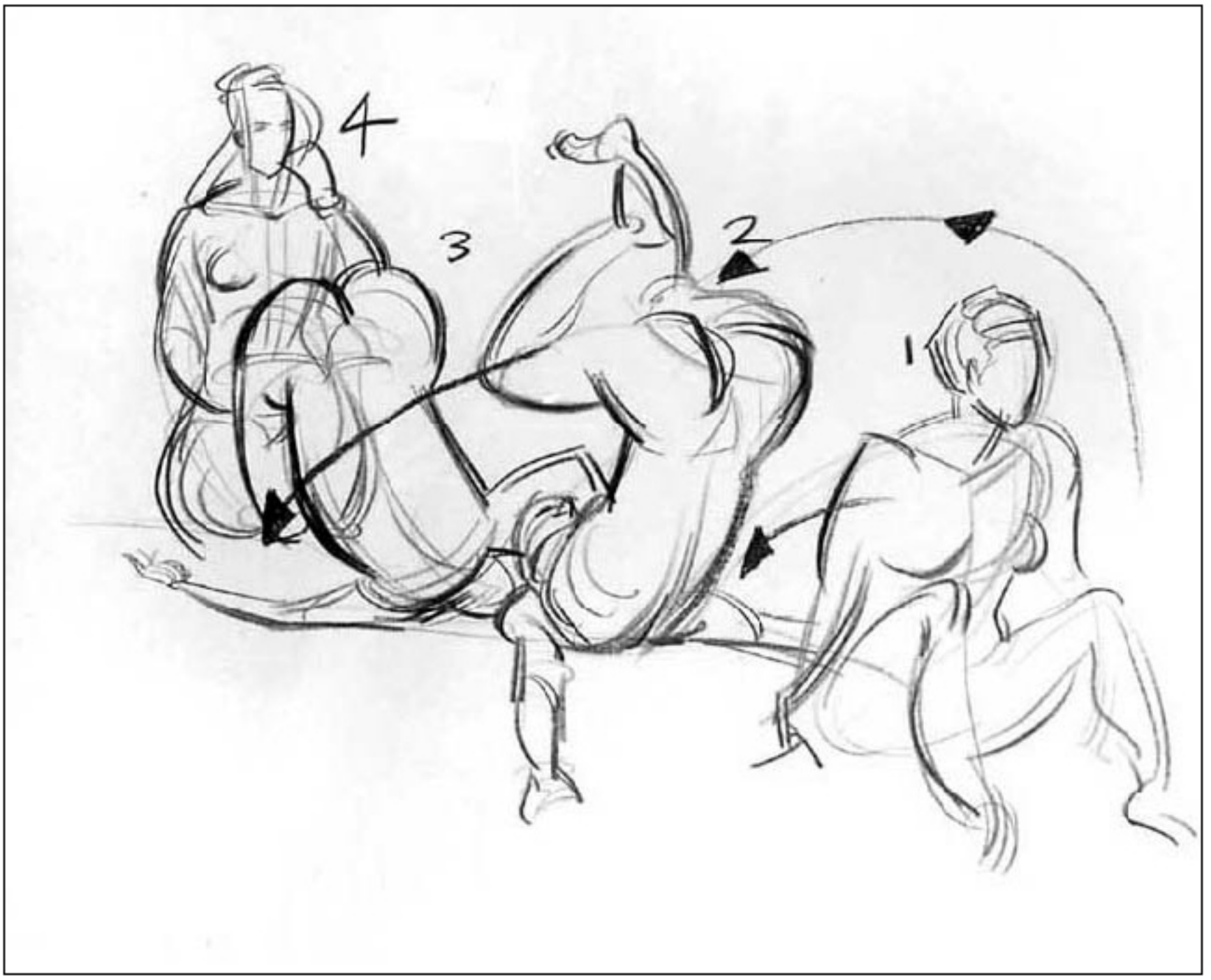
1. Here is a forceful drawing with strong curves that move us through the model.
2. Look at what happens to energy when the figure is drawn with only straight lines. There is no forceful power. The drawing seems to be more about angles.

a. The leading edge

The leading edge is the edge of the body that leads a motion. This is where the largest amount of applied force can be found. A past force that directs itself to this moment in the body creates it. To help students understand this idea, I describe it as the bow of a ship or a catch of force. A simple way of finding this is to watch the model go through a movement. The direction of his or her motion gives you the answers.



In these drawings, see how the leading edge is the ribcage. In drawing 1. the ribcage directs us to the left, as the head looks right. The model's upper body turns in the direction of the head in drawing 2. When it does everything follows it. The arrow from 2. through 4. represents the direction of applied force that creates the strengthened curve of the ribcage.



This was an adventurous and daring motion. The model executed a backward roll on the platform! At 1. the leading edge is her upper back. It initiates the drive down to the platform. At 2. her legs become the leading edge. They help continue the momentum over her upper body and get us into 3. Here her right knee brings us down to the platform and the ribcage shows what direction (from left to right) she rolls in. Then finally in 4. her upper back returns her to the seated position.

The following drawings are the model standing still. Nonetheless, we want to see movement. Pay attention to he or she getting into the pose to help recognize the leading edge of applied force. The repetitive lines in some of the drawings show also the direction the model would have moved in. I have drawn thumbnails to show you what my approach was on these poses. Enjoy the energy.

The model here takes an aggressive counter clockwise rotation. His left leg is the brace for this motion. Applied force is constantly pushing against the directional curve.

I love the upward rotational thrust into her ribcage. The applied force found here originates in the hips. This drawing is a large thumbnail since it is at its first stage.

It is obvious here how much applied force there is in the model's shoulders. See the strength of the curve. Here is our catch or ship's bow from all of the force she is using to pull back on the rope.

In the first half of this chapter, we discussed directional and applied force. Now we will see how the union of the two creates rhythm and harmony.

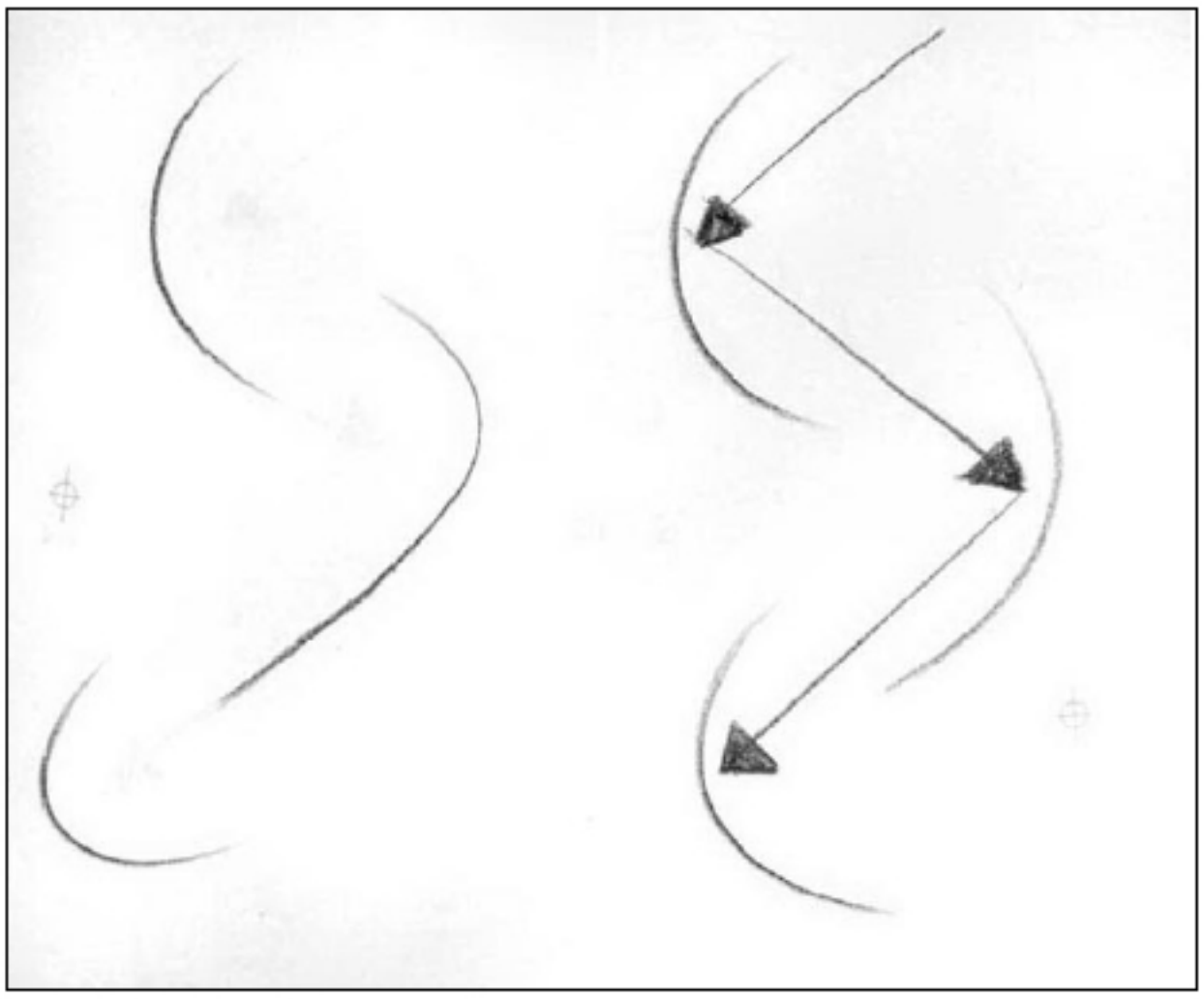
B. The road of rhythm

A rhythm is the beautiful interplay of different energies in the body that helps it stay in balance, or creates equilibrium. Rhythm exists in all living things. Your understanding of rhythm will help you create living drawings.

Gravity is the reason we have rhythmic balance in our bodies. Our anatomy is not linear but asymmetrical in its musculature. This allows us motion against the force of gravity and equalization when standing still. Understanding this will help you draw a living, grounded, balanced figure.

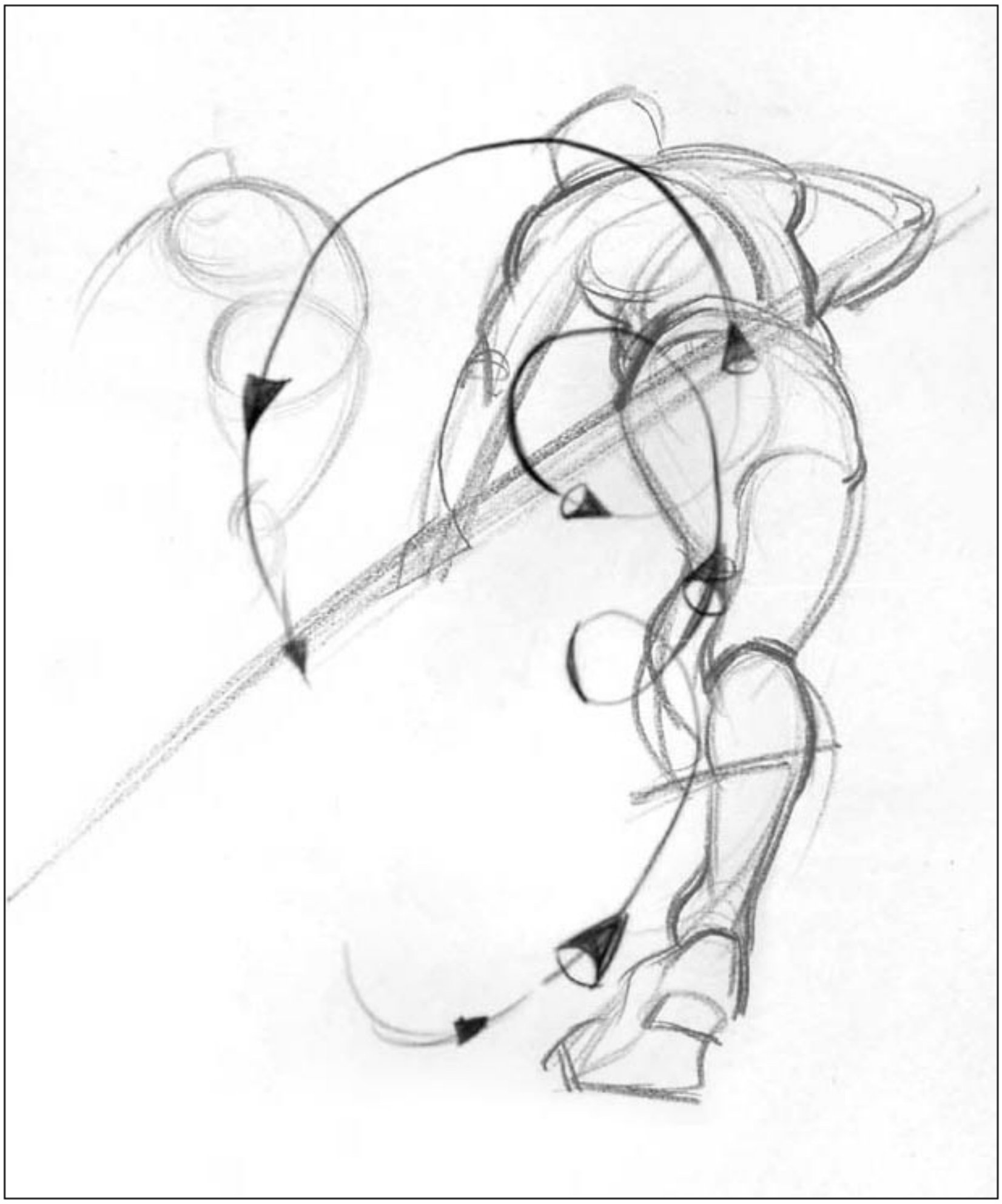
"The aim of every artist is to arrest motion, which is life, by artificial means and hold it fixed so that a hundred years later, when a stranger looks at it, it moves again since it is life."
William Faulkner

One line or idea is a force; two forces create rhythm. To draw rhythm, we must understand the relationship between two directional forces or ideas. The attitude or direction of one line or force will apply itself towards the next. In the first part of this chapter, we discussed directional and applied force. The applied force is actually part of the body's rhythm. It is the result of an earlier directional force. Energy is coming from somewhere and sweeping into the main idea of the pose. Some students understand this better as action, reaction, or moments of pressure.



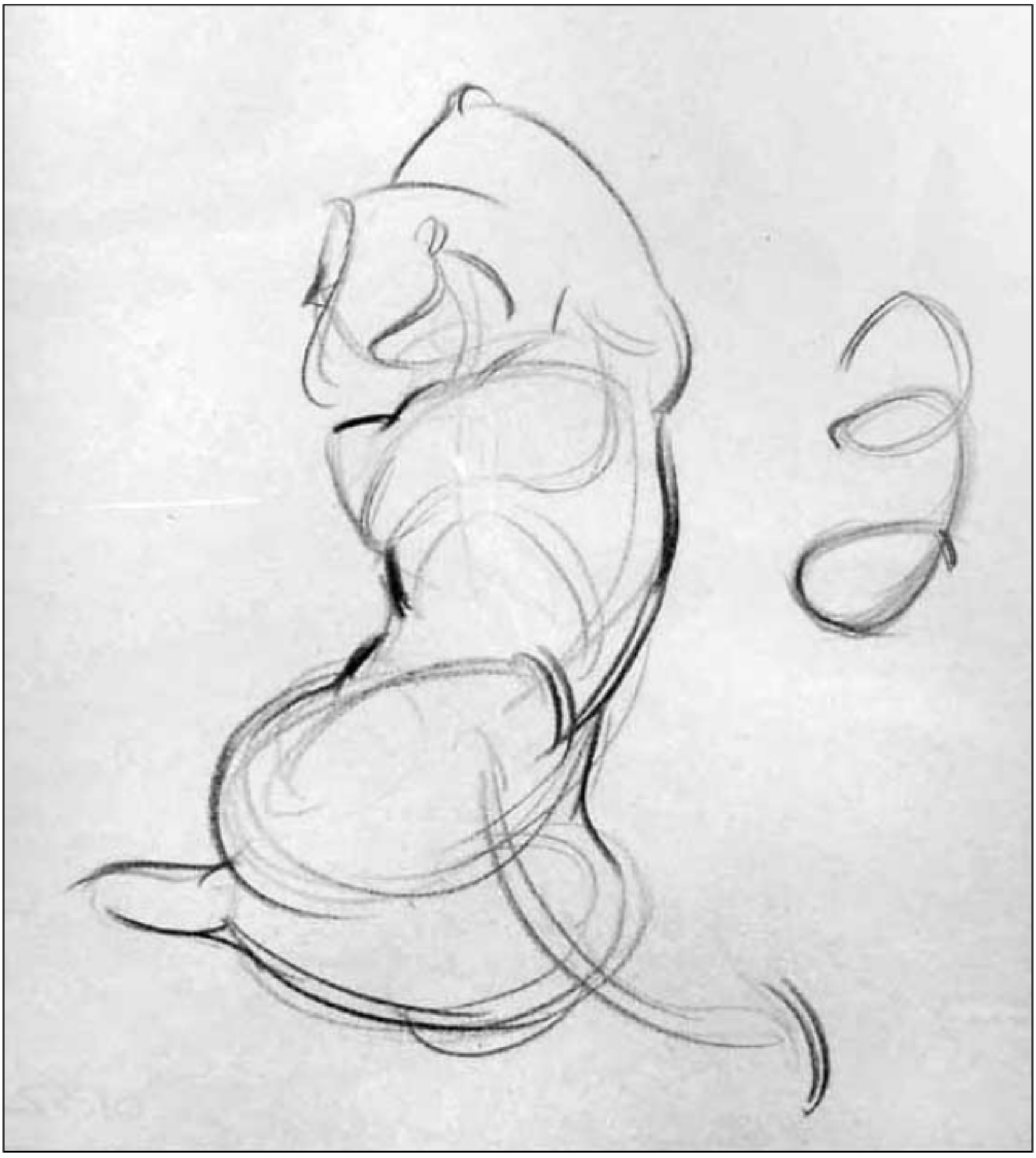
In the drawing on the left, notice at the top we begin the same way we did in our description of applied force. On the right, we see applied force represented by the arrows pushing into directional force drawn in curves. The directional force then directs us to another place in the body. The directional force becomes applied force. When this energy hits its next exchange and needs to be redirected, it hits a new directional force and then turns into an applied force once more.

Be aware of the angles of the body. The drawing on the right shows you how they are created by the fo



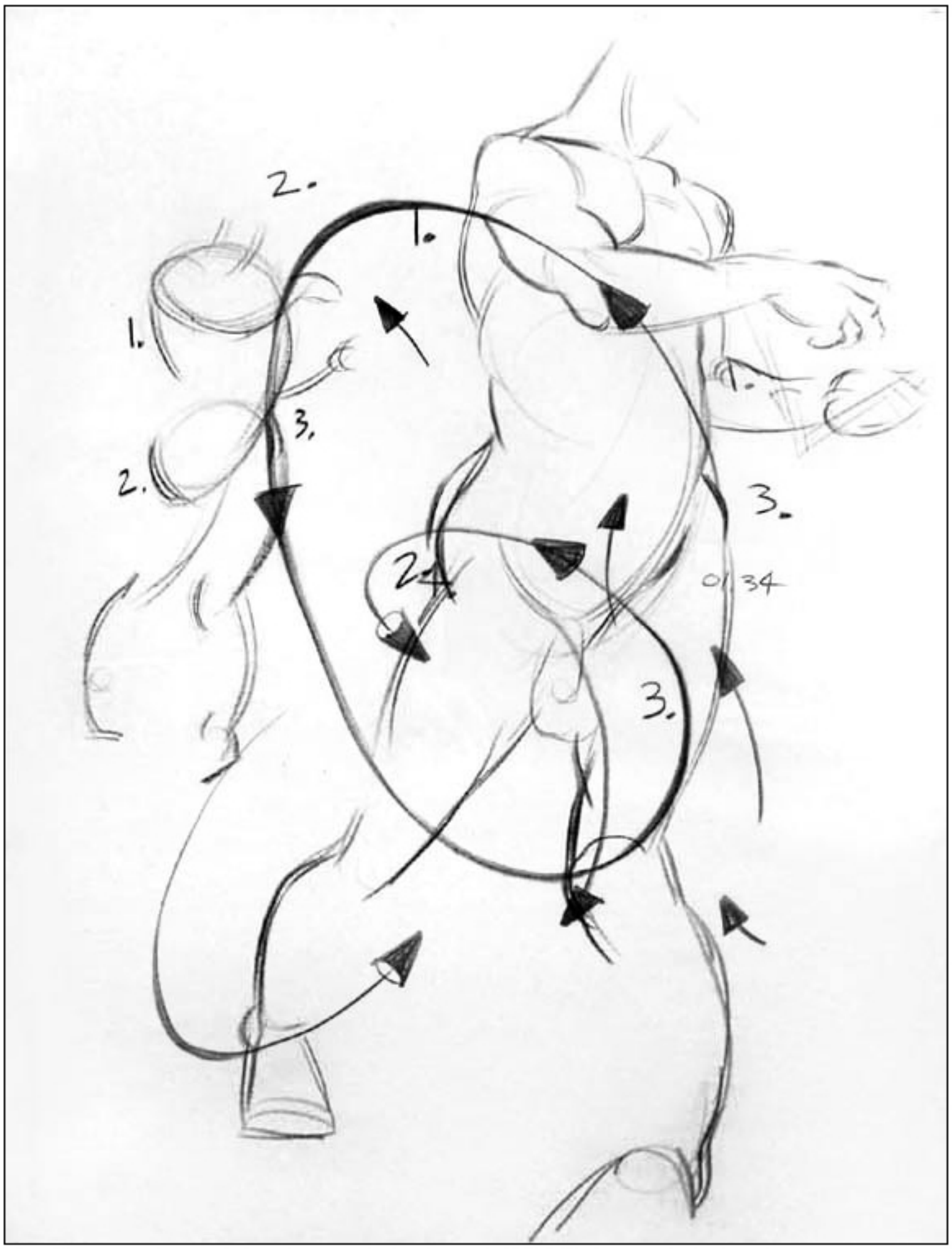
The thumbnail on the left shows you my first thoughts on how to approach this pose. Look at how much is said about it with long ideas.

Here we shoot up the model's right leg, roll around the knee to the forceful side. Then we swing our way up the thigh and over into the hip where we make our final ascent up into the back, over the shoulder, and down into his extended arm. The relationship of the left arm and right foot helps encircle the idea of this pose.



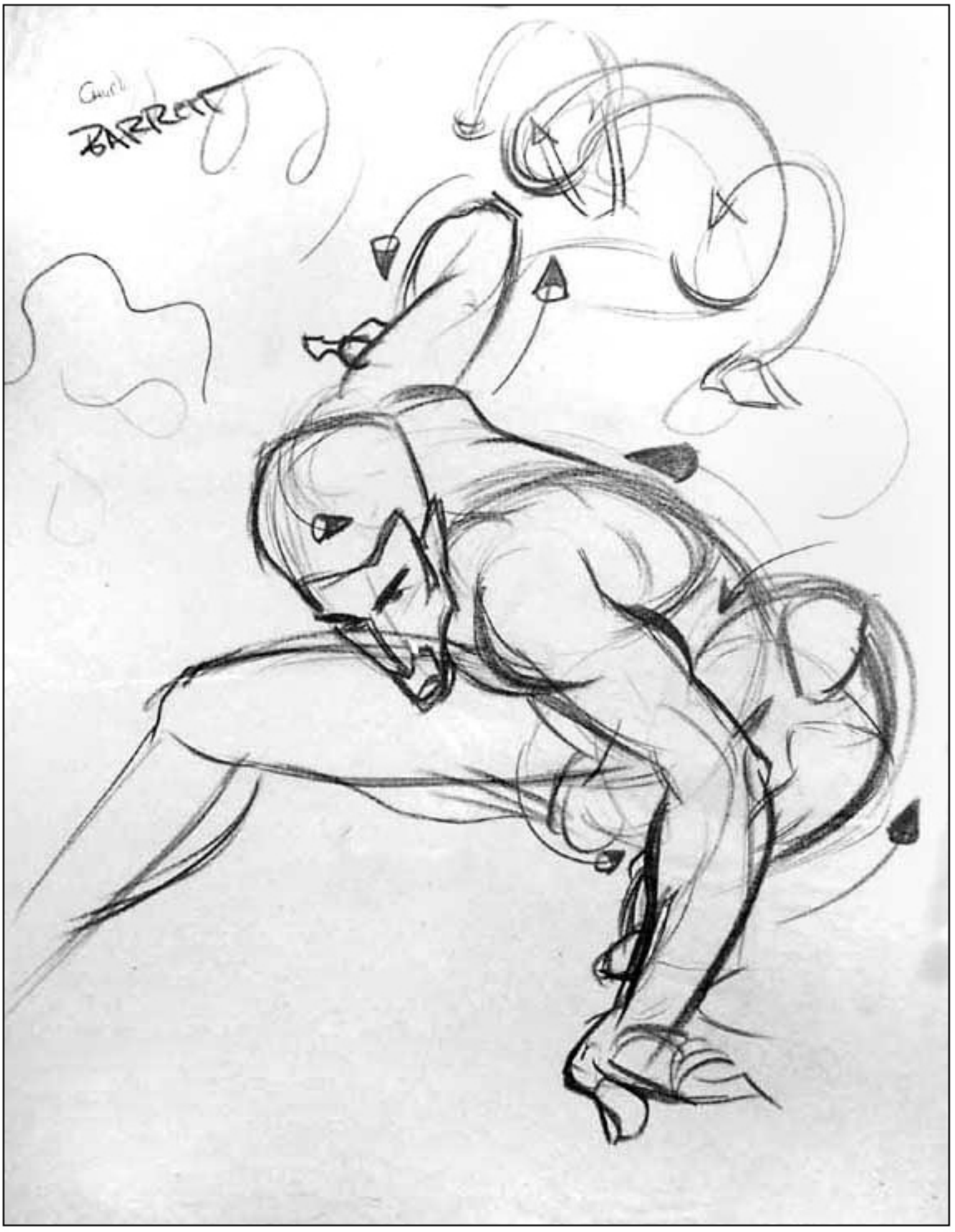
I love this drawing. To me it is so alive that it's musical. The thumbnail on the right shows my initial idea.

Look at the long connection of her head and elbow down through the hips, up through the thigh to the knee. Finally, after that long and elegant journey we have a change in tempo but for a moment, found in the knee. Off we embark down the calf for a fast and graceful curve to her ankle where it repeats the tempo of the knee. Look also at how effectively mass is described with few lines.



Here we see where some ideas are longer and more connective than others.
1. The upward sweep of the back is where we will begin. This directs us across the body where we travel down to the crotch and sweep up through the left hip at 2. and drive up into the right one at 3. We then pick up speed again and shoot down the thighs through the knees and to the different endings in his feet.

See here how at 1. I address the largest idea, the connection between ribcage and hips. Then, to push the ride, we can sweep into the arms at 2. and 5. We also can glide into the legs at 3. and 4. with seamless rhythm.



This drawing started off as an exercise where I have students begin a drawing and then another student finishes up the time restriction. This drawing was started by Chuck and then completed by Barrett. Barrett unknowingly succeeded in producing a drawing with a very long idea. Above the figure you will see my explanation of the roller coaster ride we take. Barrett explained how he was content with seeing the model's left leg from hip to foot as one idea. A second look at the drawing shows us how that force sweeps through the crotch, up and over the back, into the deltoid, and then down to the model's wrist.

Remember: Everything in Chapter One works together. At times you will see applied force, and sometimes you will see the chance to go long, all within the same pose. Either way, you want your drawing to be a festival of the life that was in front of you, a loud drawing of your understanding. Don't forget the power of the force full curve.

Now let's look at how to better describe the forms around which force travels.

Chapter Two: Forceful Form

Artists' understanding of the theories of perspective has changed the world we live in. Their observations helped them create dimensional thoughts upon a flat surface. You are affected by this every day of your life. Recognize that the chair you occupy and the space you live in were conceived of by an artist with the capacity to draw form.

In order to draw form you must first see it. Perspective will be our launch into four-dimensional space.

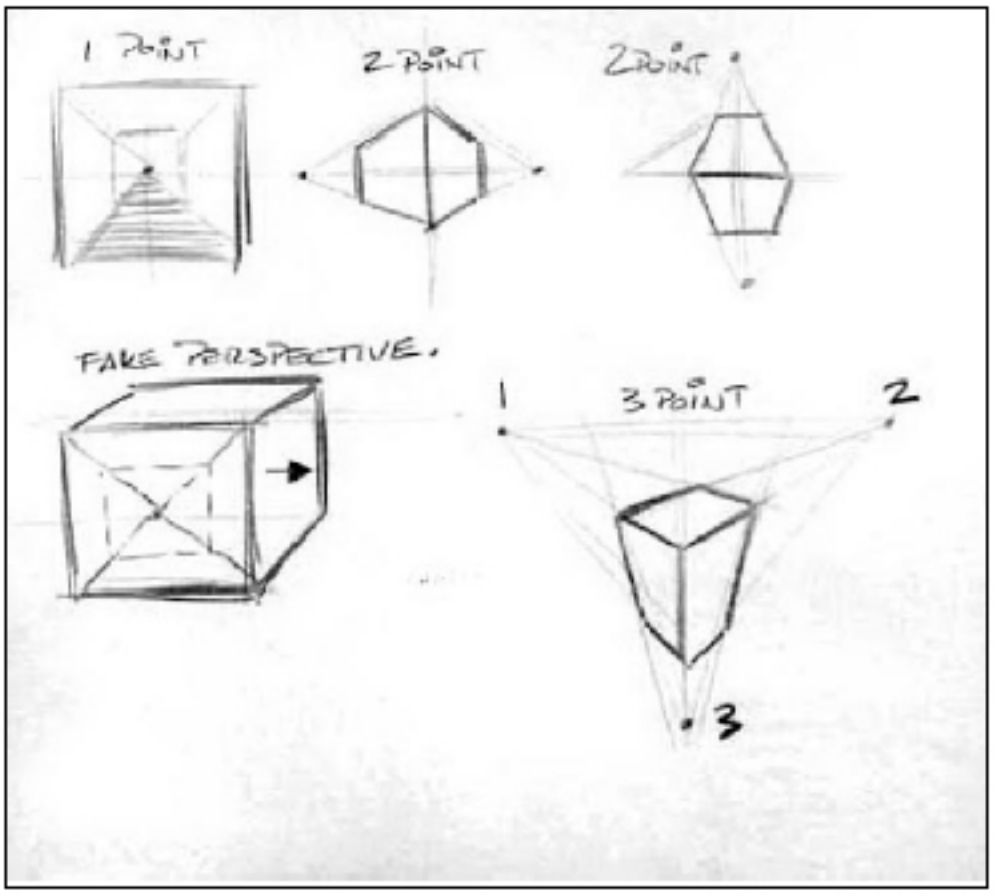
Anatomy is form in drawing the human figure. There are too many books out there about anatomy for me to take up a chapter on this. If you feel uncertain in this area, it helps for you to have a book that shows basic understanding of the placement, relations, connectivity, and workings of the major muscles of the human body. Some books I can recommend are Bridgeman's "Complete Guide to Drawing From Life," which is stylized, but the drawings are forceful and he explains how things work. Another book is "Anatomy for Artists" by Jeno' Barcshy. It is informative and the drawings show some of the mechanics of the body. Lastly, Elliot Goldfingers's "Human Anatomy for Artists." This book considers the body's muscle groups and draws the layers that create a given area's anatomy, from the skeleton to a photograph of a model's actual musculature, as we would see it.

A. Perspective: The strength of angles

The first topic we'll cover is perspective. Perspective is not difficult, it just takes some time to understand what you are seeing and know that you are capable of representing depth on the page. This happens after understanding the traditional ways of drawing it. I learned perspective in junior high first, then from "How to Draw Comics the Marvel Way," and then, most importantly, from the four years of architecture I studied in high school. The cube or box is the beginning of understanding structure in space.

One of the major uses of perspective is to show you what angles to draw objects at. These angles give you the sense of vanishing that occurs in our world.

1. One, two, and three point



One point perspective is everyone's beginning when it comes to seeing space into a flat page. It is limited. Its main use is to draw flat planes in depth. In the box on the left, one point shows its limitations. When looking at a box, as soon as we face it from any direction besides head on, we are dealing with two points or more of perspective. We cannot see another side of this box until we have two points as reference.

The box in the bottom left corner is an example of what I receive from students when I ask them to draw a box in perspective. This is the nemesis of perspective. I know we are taught this, but if you look at the box, notice how the front face has right corners all around. We are looking directly at the front face, so how would it be possible for us to see any of the other sides? It is as if we took the back plane of the box and slid it, in a parallel manner, away from its actual structural orientation with the front of the box.

Two-point perspective has the cube converge in perspective only on one plane of existence, therefore horizontal or vertical. In the first example, notice how the vertical lines in the box are parallel and the others are not. Here our cube is affected only on a horizontal plane. The horizontal lines of the cube are being squeezed into perspective by the vanishing points. In the second drawing, the cube is still two-point but affected on a vertical plane. As soon as we are above or below and left or right of the box, which means we should see three of its planes, we must have three points of perspective.

In three point, the box is affected by perspective on two planes, vertical and horizontal. Number one and two are the horizontal points and number three is our one vertical point. We could have two points on a vertical line and one on the horizontal. In this case, the third point gives us a sense that the box is long vertically. We seem to be floating above it looking down. The vertical lines that create the box are converging downward towards the third point.

To help explain one, two, and three point, I am going to use drawings of people's heads. Why? The head is the most block-like structure of the body. Some artists like to construct the head from a ball; I prefer the cube. It is more definitive. It has clear planes that erase doubt as to what specific direction in space a person or animal's head is in. Use the angles of the cube to help define the angles of the facial features. Just as curves defined force in Chapter One, straight lines evoke structure and perspective.

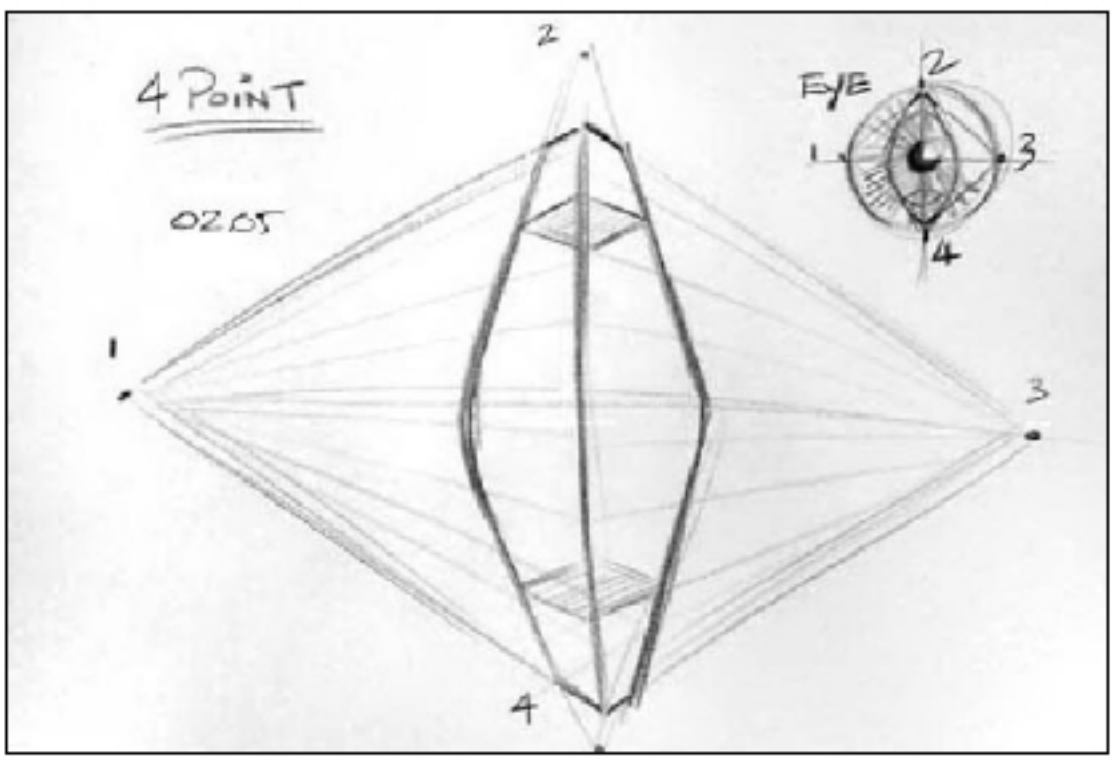
This drawing is a profile or one point perspective. Here we are looking right at the side of the model's head.

Mike's drawing of Keith is in two point perspective. We have the front and side of his head visible to us. The edge of those two planes is at the peak of his right eyebrow. That edge defines the forehead and temple planes. The drawing itself is solid. Look at the bottom of the nose and his upper lip. We see three planes of perspective in these features, but the head itself is not in three point. Also notice the slight pinching effect of the projection lines of the eyes nose and mouth. The glasses are obvious evidence of the two planes of perspective. Mike did an excellent job.

Here is a drawing of my wife Ellen. You can immediately tell that I was above her when it was produced. See the clear three planes of her head. Notice how her facial features block one another because of the perspective. An example would be her nose blocking her mouth.

Know how to draw the right angles of a box in space and then how to squeeze those angles to give your drawings even more depth. Pay attention to the vertical and horizontal lines and how they need to converge to suggest a plane progressing back into space.

You must be able to draw a cube from any perspective out of your head. This is a definite requirement of drawing well.

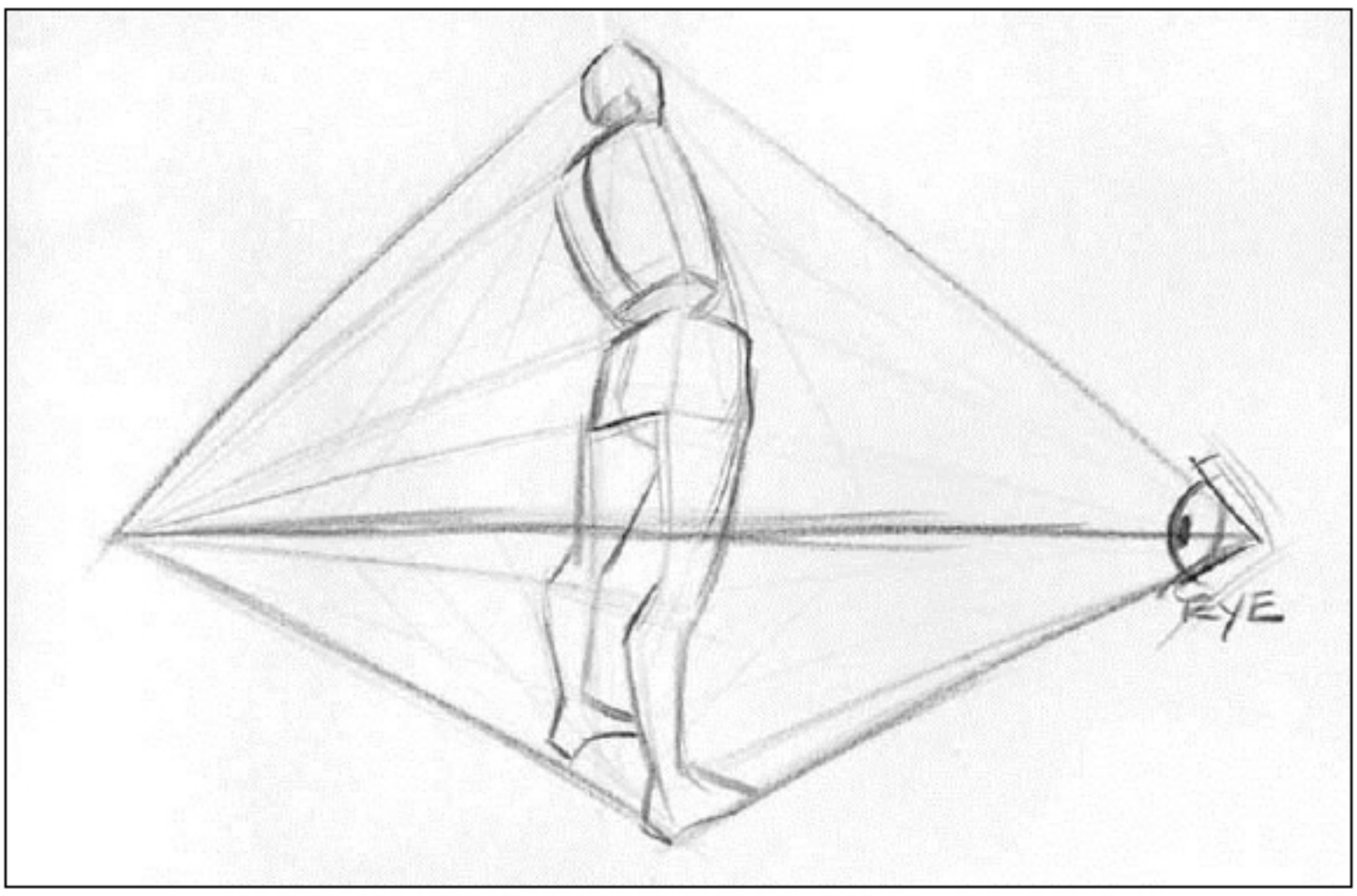


2. *Four point perspective*

So here it is, four-point perspective in all its glory. It reminds me of looking out a window in New York City. If you were at the height of about the thirteenth floor and the buildings around you were thirty floors, this is what you would see. We have squeezed depth on both the vertical and horizontal planes with each having two points of convergence. This is the world of perspective we live in. The closer something gets to your eye, the more of a fisheye lens effect you will see. The center of the object will emerge closer to you while its perimeters will squeeze away back into space.

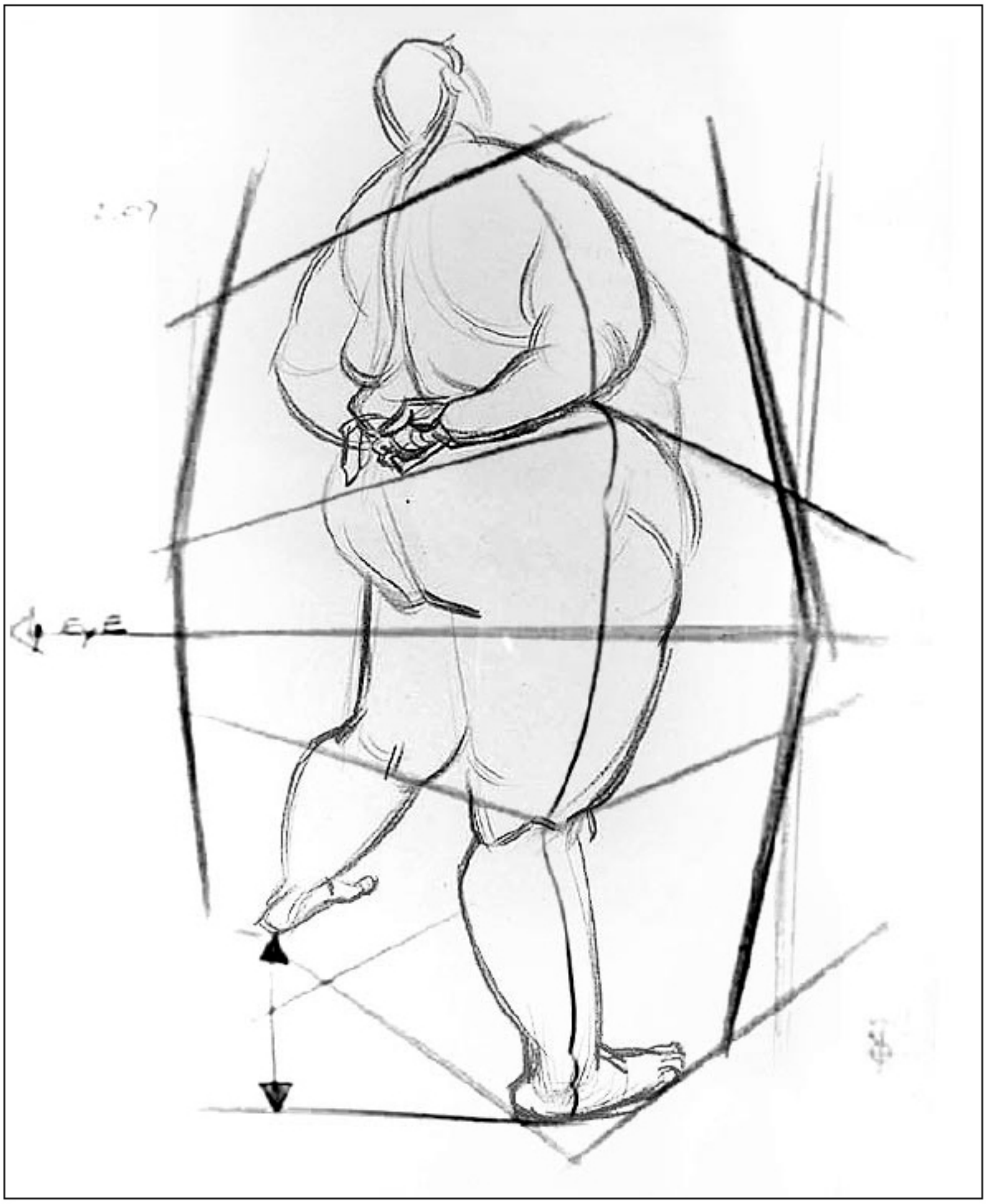
The problem is, we are not normally close enough to objects to be aware of heightened perspective and not around the middle of objects that are large enough to look up and down.

What you see in the side-view mirror of a car is what you want to be aware of all around you every day. In production art, you will sometimes see this in camera tilts for storyboards or a layout.



Here is an example of how four point perspective affects the model. The first thing I try to make students aware of in learning to apply perspective to their drawings is having an awareness of their eye level and location in reference to the model. In the drawing I have done, the eye level or horizon line is at mid-thigh.

I have chosen these next four figure drawings for you to see the reaction of four-point perspective. Make yourself aware of where the artist's eye level was. The way to do this is to see where the body seems to go flat for a moment, a place that you cannot see above or beneath, where you are looking head on at the model. See where the closest edge of the box of space that the model occupies is in reference to you. In most standing poses, my eye level hits right around the mid-thigh of a model.



This drawing is terrific for seeing the perspective set up between the model's two feet. Because they are connected with a line, we are given a direction towards the left vanishing point. As a visual reminder, when drawing a model's feet, notice the height difference of the two on the page (as I have drawn with the arrow). From there, you can see how the rest of the body is affected by the guidelines of perspective I have drawn. The closest edge of the box of space she occupies is represented by the contour line running down the right side of her body.

See the angles of his feet, knees, hips, and jaw. Here it is the hips that are at my eye level. Look at the line running over his left shin that defines its form and direction of force.

Here the feet and shoulders happen to fall on the lines of perspective the body is in. See how the hips do not do the same. The model's knees are at my eye level or horizon line. The body is complex and can move to present various different perspectives in one pose. You must be aware of your eye line and how the entire pose sits in four dimensions.

The steps the model is sitting on are our most obvious clue to the perspective of this drawing. Look at their angle relative to that of her breasts and shoulders, or the straight line that represents the back of her head. There is a strong sensation of looking upward at her here.

In my classes, for homework, students draw five heads a week. The way I have them do this is to first find a victim. (Don't draw from a magazine; it is flat, which actually makes the job harder.) Then they are to see their relationship to that person to figure out the cube of perspective the head is in and draw it. Lastly, the head should be drawn with surface lines to show structure. Later in the year, they move on to hands and feet with the same disciplines in mind.

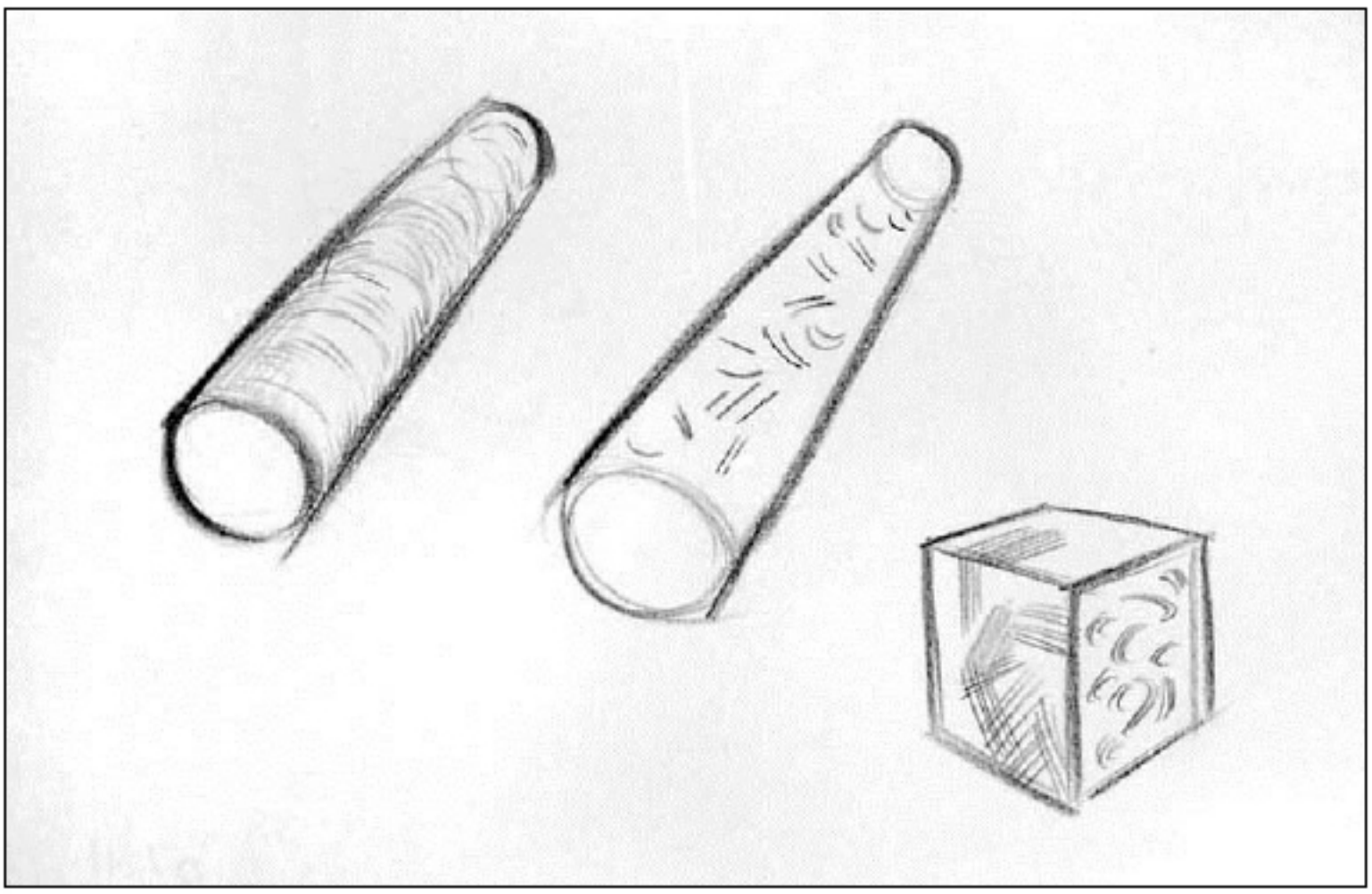
B. Structure

1. Surface lines

Many art classes teach students to draw the figure with cubes and cylinders. I believe that this is a good foundation for artists. It allows you to see the angles and planes of perspective on the body as we just learned them.

The human body happens to be a little more complicated than just boxes and cylinders, though. In this part of Chapter Two, I will show you drawings that possess lines that evoke force and describe form. This will occur with the use of surface lines.

Going long in Chapter One was the beginning of seeing force wrap around form. Now we will focus on the forms.



Here we see surface lines with simple structures. The cylinder on the left shows lines that adhere to and go around the form. Some of them pull along its surface from end to end. On the right, we see lines that do not explain the surface of the cylinder. They seem to carve into it instead. The box on the bottom shows us how to describe a flat surface with line. You can also describe a change in planes with surface lines. As with the cylinders, inappropriate lines cut into the surface of the right side of the box.

This part of the book will also help you get away from the edge of the body, or its perimeter. The model takes up space and you want to be able to explain how. You will learn to see force throughout the entire form and this in turn will make you aware of structural and rhythmic connections. Remember that the edge of the model exists because of where you are seated relative to the model. If you or the model were to change location or position, the edge would change.

Pay attention to the location of the natural center on the forms you understand. For instance the nose on the face, the center of the ribcage, or the belly button on the stomach. You obviously have the spine for the back. On the legs you find the model's knees and the top of the foot. For the arms you can use the center of the biceps or deltoid to explain each of those different planes.

Going back to hierarchy, think about addressing larger structures first and then smaller ones. Understand the direction and form of the ribcage before you draw the muscles attached to it. I remember when I was first experiencing the enjoyment of seeing space, it was because of an instructor telling me to imagine I was an ant crawling over the surface of the model's body. Everything is large in comparison to you. It is a new landscape for you to explore. Hills, valleys, and plateaus will appear on your trip. Ride the rapids of force in the figure. The more you can believe what I tell you, open up your mind, and envelope what you see, the faster you will obtain awareness of space.

Another exercise in drawing form is for you to act as if you are sculpting the model with your pencil. Draw as though you are caressing him/her with the pencil's tip. Feel the forms in your mind and express them on the page.

Sometimes students confuse this exercise with drawing shadows. We are not looking for shadow; we are looking for form through force.

Michelangelo comes to mind when I think about line showing force and form. He was the master at making a complex group of muscles, such as the back, work together as a whole. This is no easy task. The vast sea of bulges and depressions could leave any artist confused and lost.

In the beginning of the twentieth century lived a man named Charles Dana Gibson. He was best known for "The Gibson Girl." His lines dealt mainly with structure. Everything occupied space as he illustrated scenes from that time period. Dover publishes an excellent book called "The Gibson Girl and Her America: The Best Drawings by Charles Dana Gibson." I fortunately almost tripped over two large, old volumes of his work on the floor of an antique shop in South Jersey. Definitely a precious find.

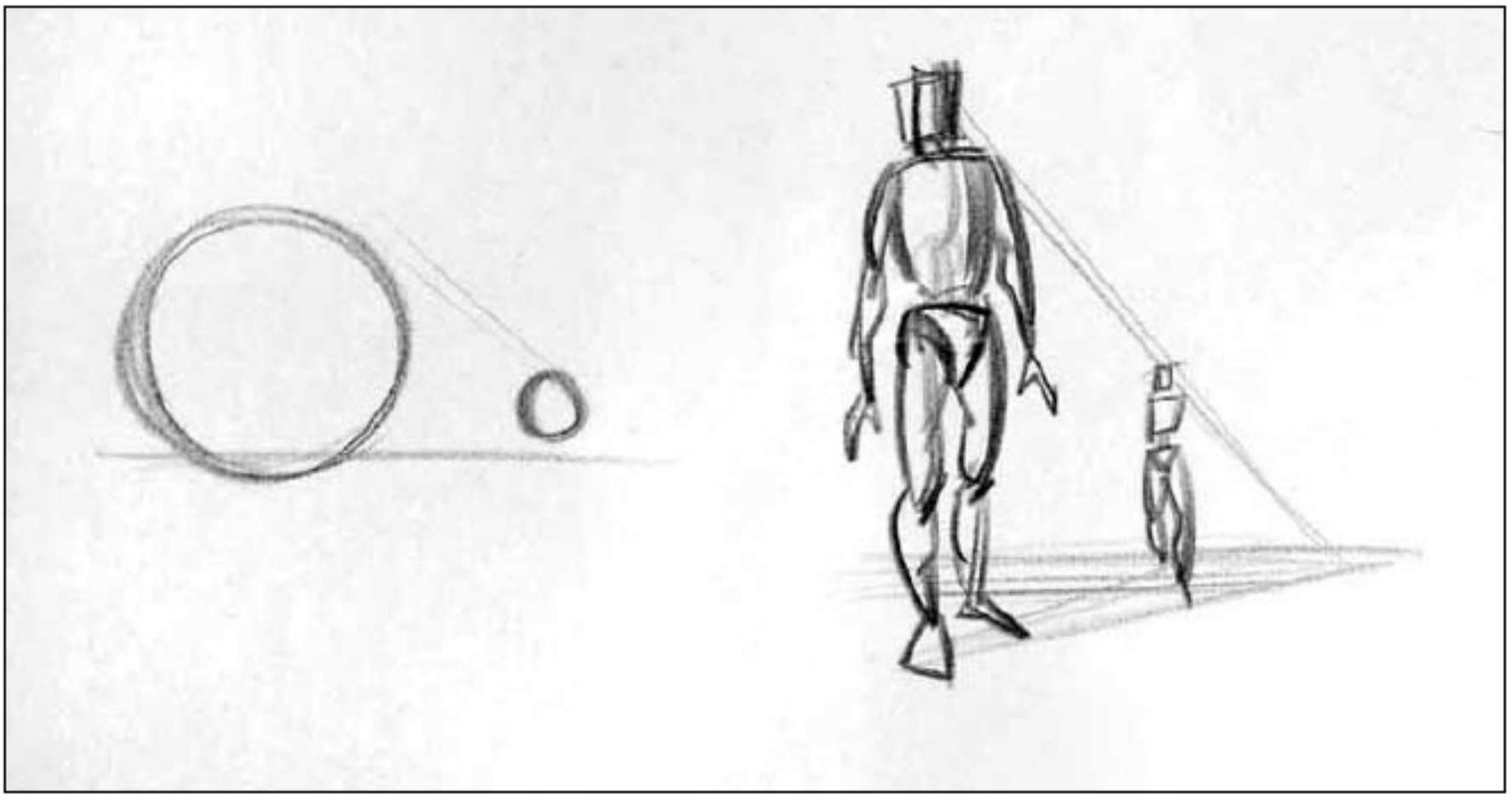
Heinrich Kley was an artist I had never heard of until representatives from Disney told me about him. At that time, I was lacking form and Kley's drawings were not. Kley was a German artist who did satirical cartoons for Germany's newspapers. These illustrations are full of life and energy

The most telling overlap here is the ribcage stretch beyond the hips in depth at 1. His right arm has extreme foreshortening at 2. We move from the deltoid to the bicep and elbow into the page. Then we make our way out from the forearm to the hand with the face lying just beyond it. The left arm at 3. has a more casual progression through space still created by overlap. Also see the sweeping surface lines that assisted me in finding the model's forms.

2. Size

Size matters. The larger an object is, the closer it will appear. Therefore, the smaller an object the further away. This rule will help explode the boundaries of the paper, thus fooling the eye into seeing depth. We are so conditioned to this rule in our everyday lives that something as simple as the size of a circle fools us into seeing space. The more you force space into your drawings, the more conditioned you will become to seeing it in everyday life. To provoke the sight of space, try drawing the model from a closer position than you usually do and exaggerate size. Make things ridiculously small or large. This will help you see the power of size.

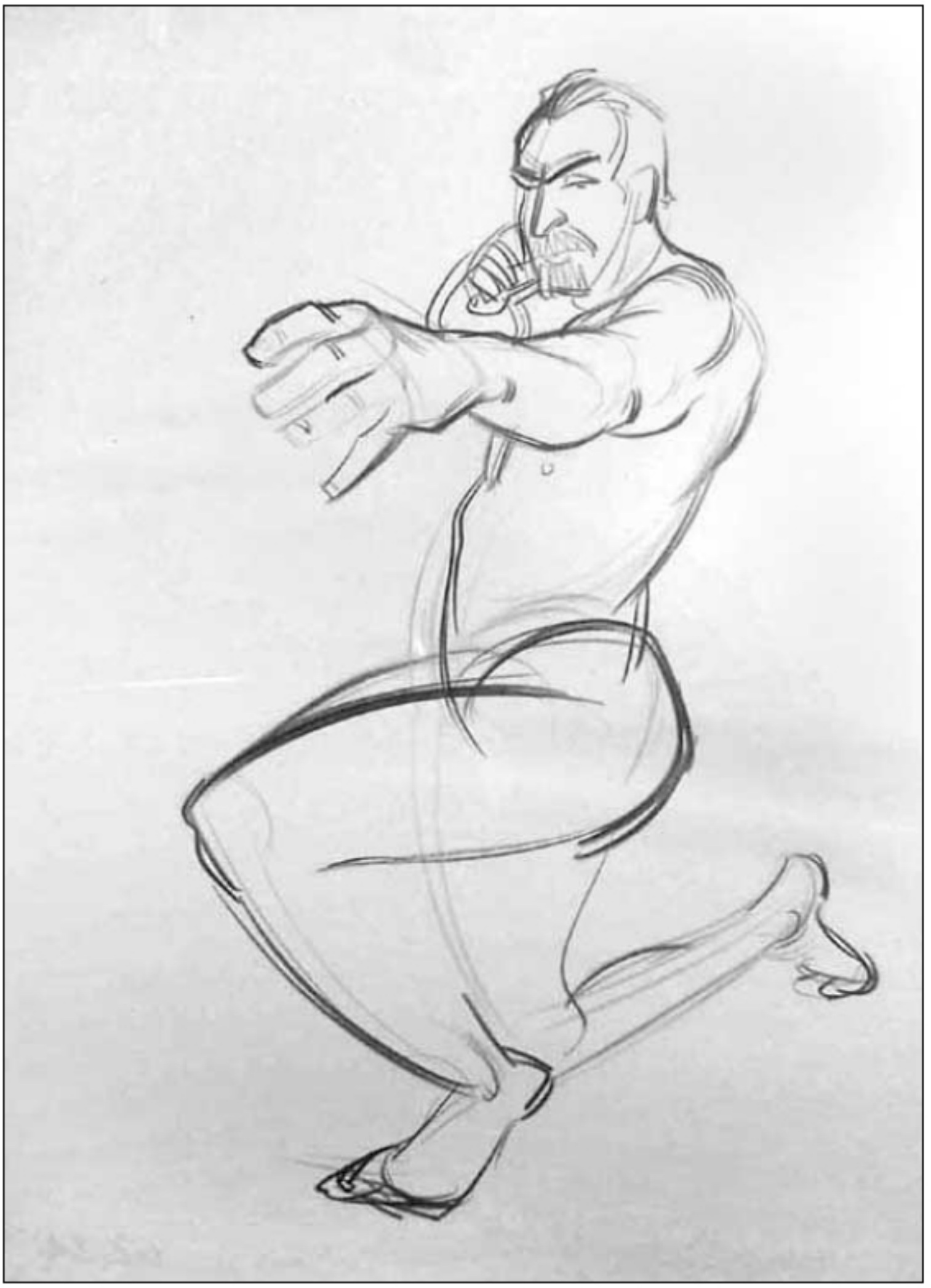
"Kids in the Hall" cleverly turned this reality into a skit. They would show one person pinching another's head between his thumb and pointer finger while looking at the second person from far away, thus making him small enough visually to be pinched between two fingers.



Look at how effective both examples of this are. We are forced into believing we see depth when it is only the size of the object that has changed.

Take a journey in your mind's eye towards the model from where you are seated as if you are a tiny floating movie camera, and notice, for instance, what part of the figure you approach first. This alone should help you see direction into and out of the page.

Since space, or depth of the page, through size is our focus, look at the size of the model's right foot relative to her hands, head, or most importantly, her other foot. This is so important because if two of the same objects are different sizes, we immediately make a visual connection that helps us realize a change in perspective or distance between them. You can also see some moments of surface line here.



In this drawing, his left hand is the object that is closest to my eye. The reference of his other hand helps the spatial illusion. See how I structured his arm and hand in the depth it occupies. Now overlap helps describe form in a foreshortened space. I also like the different force of each foot.

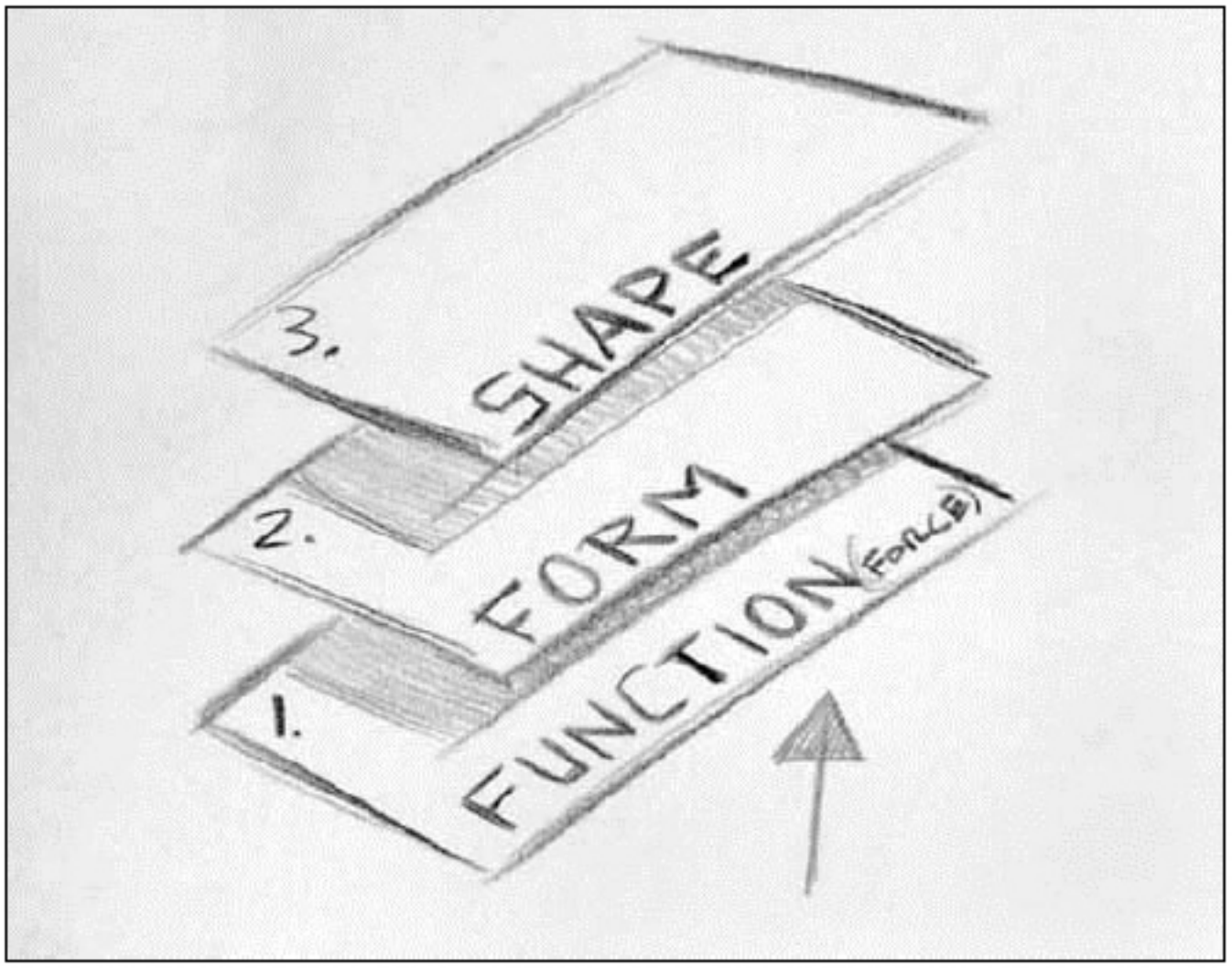
I love the upward climb. Starting at the left foot, we have an invigorating journey ahead before we reach the model's face.

Our triangular trip through space takes us from the model's right foot to her head and then to her other foot, where we see a digression in size that makes us see space or depth. Again, also notice the overlapping to force space.

All of the topics covered in this chapter are to assist you in describing forceful structure. You need to be capable of describing forms moving with rhythm in a four-dimensional space. In animation, surface lines are not evident in the finished product. Moving shapes are important. These shapes are created via a true understanding of force and form, or in simpler terms, curve to straight. That is the topic of Chapter Three, forceful shape.

Chapter Three: Forceful Shape

John Ruggieri and later Jack Potter, both of whom were instructors at the School of Visual Arts, helped me recognize shapes in life. This made me curious about their expressiveness and efficiency. It is exciting to see the world in shapes. Everything has shape.



Let's make believe that we are looking through filters when drawing. In Chapter One, the filter we peered through was force and its different aspects. Chapter Two's filter was form and some pictorial tricks that gave us space. This chapter's filter is shape. Shape exists because of the first two filters.

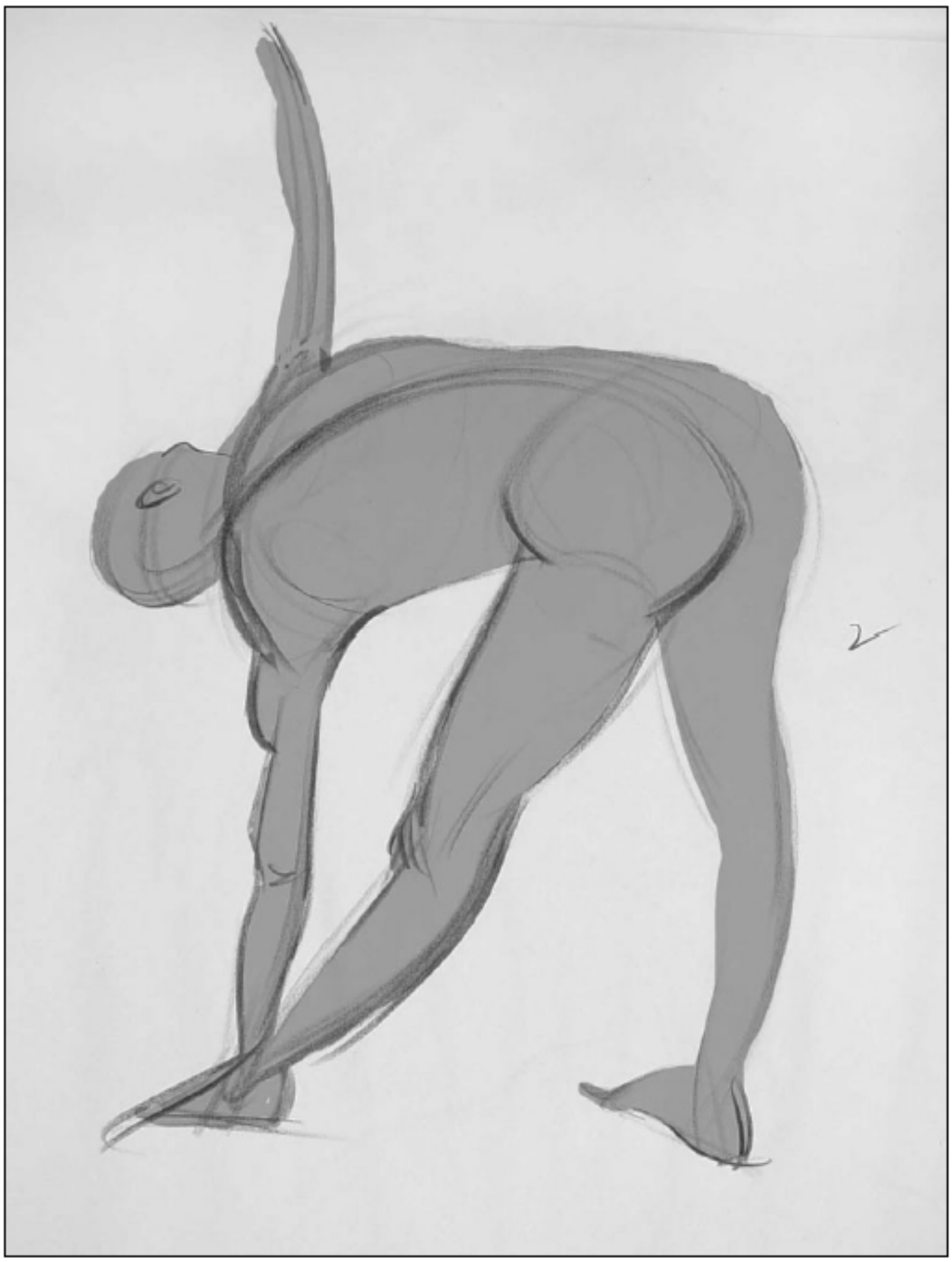
Shape gives us immediate width. Shapes can wrap around form to describe a particular mass. In animation, shapes change from drawing to drawing, which also helps present form.

A. Silhouette

Again, let's enjoy shape in a hierarchical manner. The biggest, most encompassing shape is the silhouette. The silhouette is the filled-in shape created by the outline of the entire object. It is a vital element to animated drawing. A silhouette helps us see the whole body clearly, without any interruption. You can see if the story of a pose is clear t its silhouette.

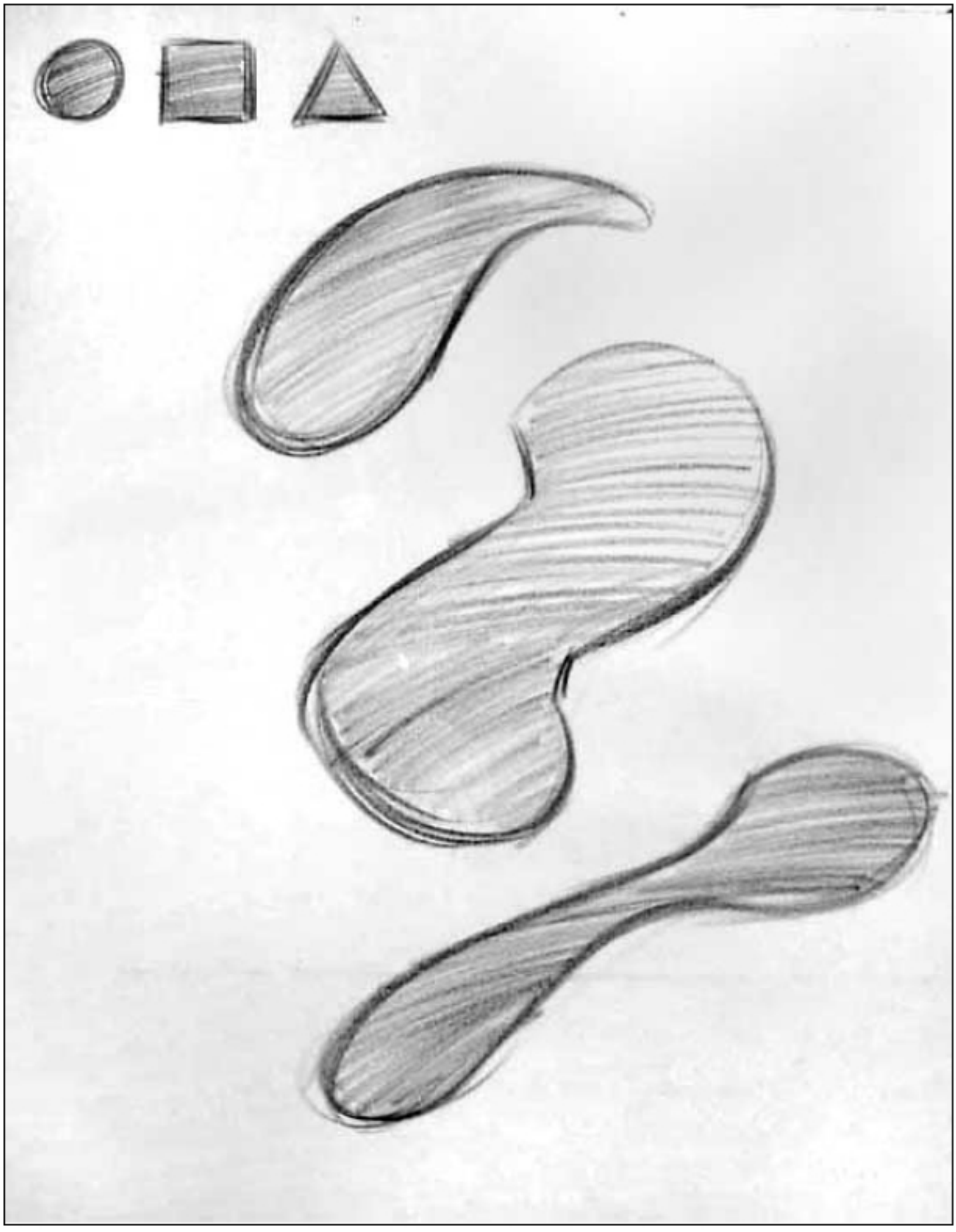
It allows you to see how all parts relate to each other on a flat plane. Here it is the size of shapes that gives us depth. As I will show you, shape can give you force. A good silhouette can even imply form by its overlapping shapes. Silhouettes can tell you about character, emotion, and much more. There are two different kinds of shape, forceful and un-forceful, lively or lifeless.

"What is conceived well is expressed clearly."
Nicholas Boileau

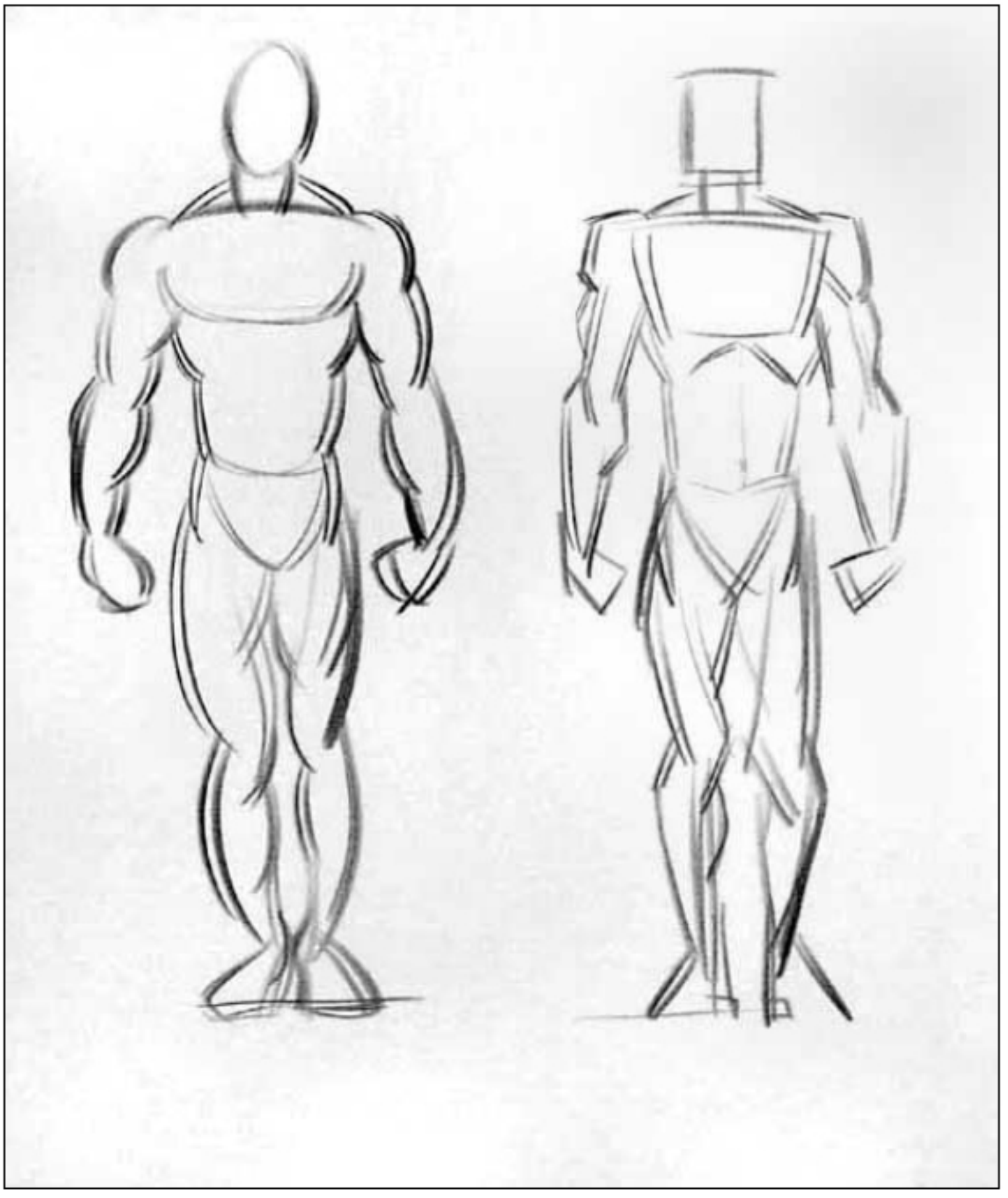


Here is a clear silhouette. All parts of the figure are distinguishable. The overall story is an easy read.

Keith's drawing has a great deal of force and form. You can tell he saw the connection between the upper and lower body. I love the "drawing through" in the left arm and also the head seen through the hair. The forceful shape he saw in the model's left hand is excellent. The drawing's major problem lies in its silhouette. The orb the model is holding gets lost within the shape of the body. The left arm is a clear read. I don't have students make things up to suit their needs, but what Keith could have done was physically move to obtain a better vantage-point of the pose for a clearer silhouette.



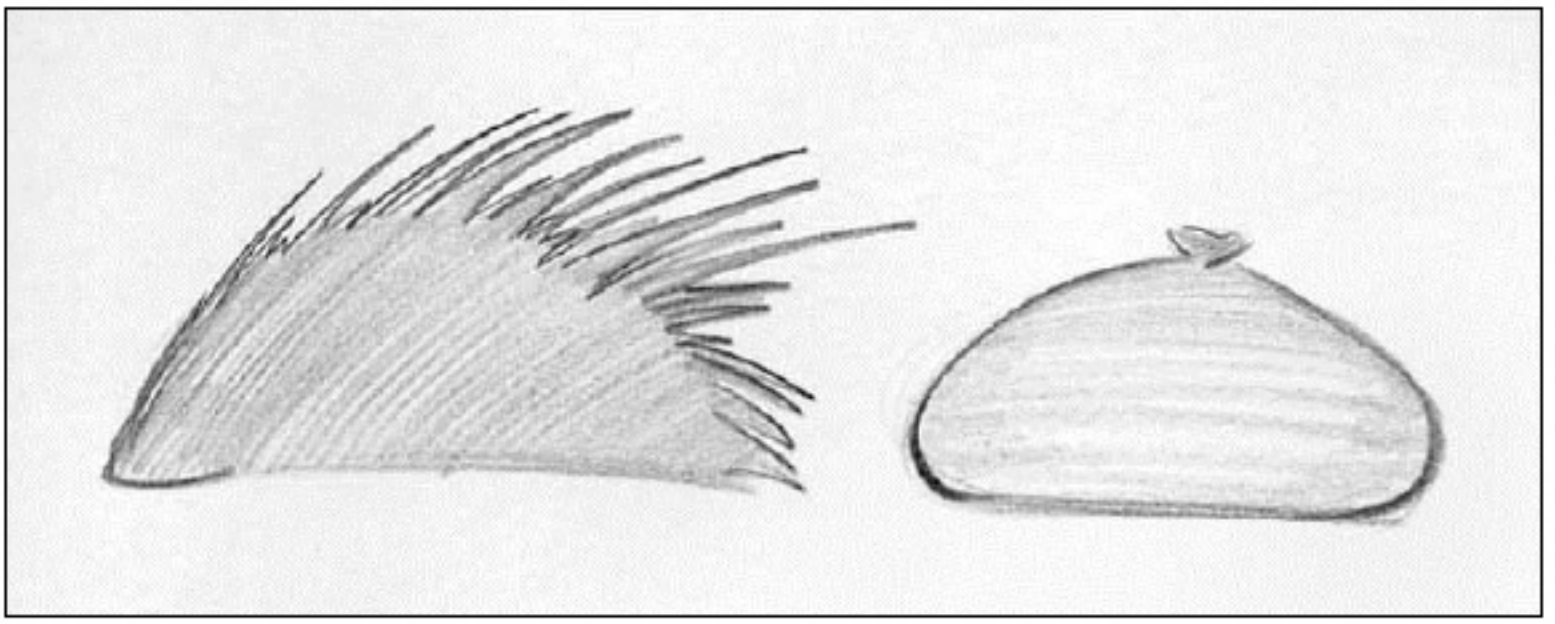
The top of the page shows us three shapes: a circle, a square, and a triangle. None of these shapes evoke force or form. They have no forceful direction because of their equalization and symmetry in shape. They are without force. The shapes underneath are full of life and fluidity.



Here we have two drawings of a male form. One is done all in curves the other all in straight lines. If a figure is drawn out of only straight lines it has no energy, and if it is all curves it lacks strength and structure. The balance of the two within every shape gives us drawings with a sense of believability through contrasting forces.

A forceful silhouette is a great opportunity to show us all of the above because the silhouette changes shapes, overlaps, and size. Shape is great for seeing angles and thickness, and gaining a new awareness that you can have an opinion about.

B. *Forceful shape*



Here we have the silhouette of a porcupine and a water balloon. One shows us hard, pointy aggressiveness while the other is soft and placid. Nature has already done a tremendous job of designing its world. To break both of these shapes down to their simplest components, they are both created by the relationship between a straight and a curved line. The curve represents an upward force while the straight tells of the hard surface on the bottom of both forms. This straight to curve is the beginning of forceful shape. Look for this shape in the figure drawings that follow.

Working at Disney made me realize that there is such a thing as appealing and unappealing shapes. I prefer forceful and un-forceful shapes. If you truly understand something's function, it will be appealing.

To discuss un-forceful shapes, look at the old cartoons where the characters had rubber-hose arms and legs. The shapes of their appendages did not lend themselves to asymmetrical, forceful energy. Their parallel quality created dysfunctional shapes.

Disney's first feature films suffered from softness. Everything from characters to backgrounds was primarily created from curves. The animation was excellent, but the designs were weak. Believe me, this is no critique of the stories either.

It was not until "Sleeping Beauty" came along that the studio really caught on to straight to curve design. Although the film was a financial failure, it changed the design principles of the studio. The dramatic modification took the studio to a contemporary style and thought process that has evolved to the efficient and graphically strong appearance that it has today. Because of this "Sleeping Beauty" was a great success. It changed the face of American traditional animation.

In "Disney Animation, The Illusion of Life" by Frank Thomas and Ollie Johnston on page 68, there is a small box that discusses appeal in drawing. It has so much importance yet it is easily passed over in the book. It briefly talks about the theory that the studio stands on!

I freelanced for Walt Disney Consumer Products before going into feature film and the guys there were great at appeal. New York's artists were mainly drawing the traditional Disney characters. That is where I

learned what a great example of appealing design Mickey Mouse is. I heard that tests were done wherein babies were shown an image of Mickey, and they would smile and laugh. *That* is appealing design!

The artists kept telling me to design more. I did my damnedest to make the characters look right and I thought I was doing a good job. I look back at those drawings today and just want to thank them for giving me any work at all. They were dreadful. They lacked the spark and clarity of design they should have had. It took me four months down at the studio in Florida and some great "Timon" drawings in front of me to finally understand appealing design. It's strange how the light bulb just came on. Once you fully understand the theory, you realize just how applicable to reality it is.

Look at the Batman cartoon of today. Bruce Timm has done a great job of designing a character from a different medium, in this case comics, and converting Batman into an appealing cartoon design. This design principle has made it possible for the animation to be of higher quality than it usually is. Intelligent simplicity has lead to a greater product. Samurai Jack is also fantastic because of the amount of forceful shape applied to the design theory of the cartoon. Characters and backgrounds are affected. Here you can enjoy it in a graphic, raw representation created by Genndy Tartakovsky.

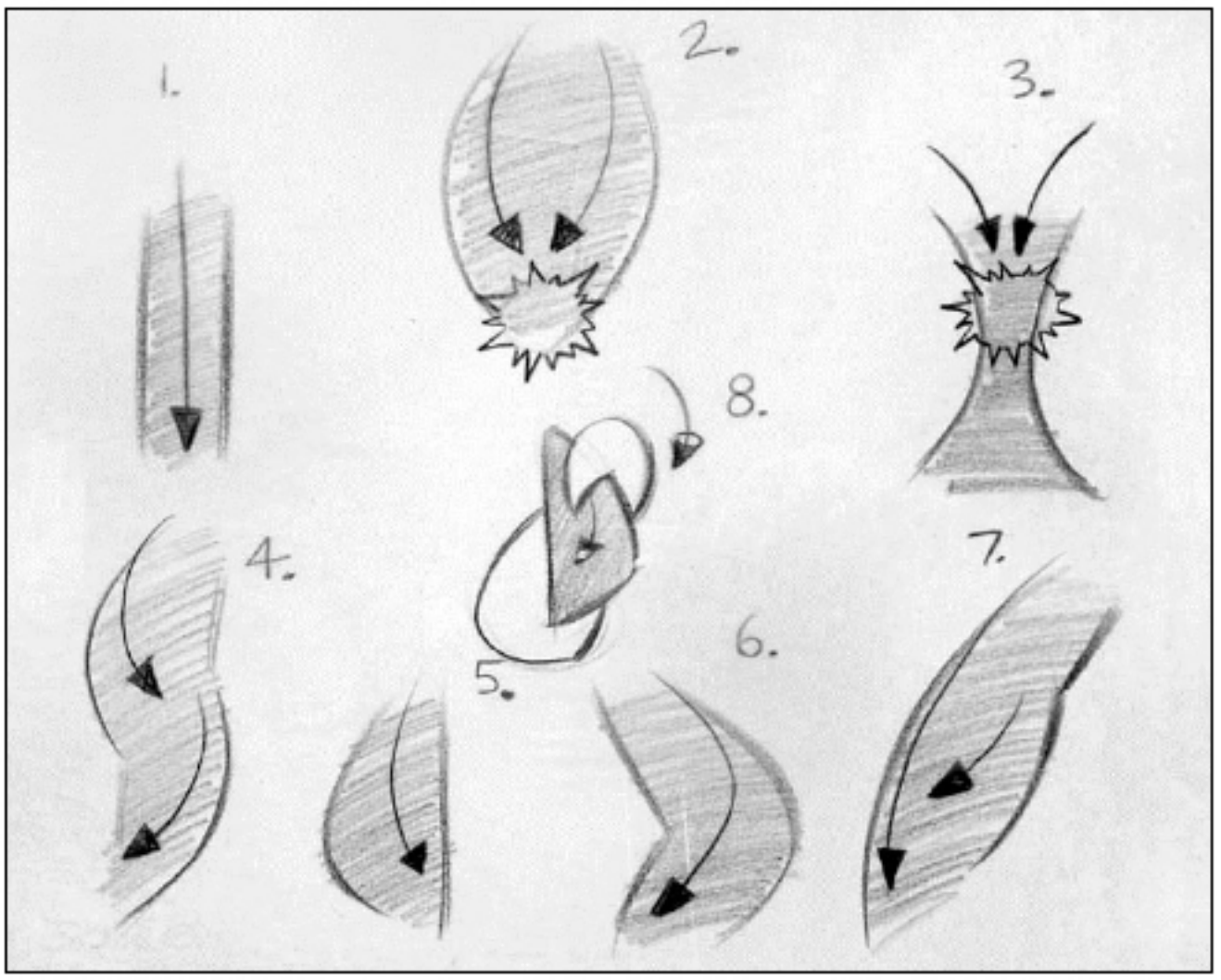
Appealing design, or what I like to call forceful shape, helps us see force and form in the construct of a shape. We do this by being aware of straight to curve. We touched upon this in Chapter One as it related to force. Now the relationship of the different forceful lines creates forceful shapes. Straight is hard structure and curved is flexible force.

The trap in trying to draw with shape in mind that I find students fall into is forgetting about force and form. The theory of forceful shape is not something you have to assert upon the figure. Like the previous topics we've discussed, forceful shape is a reality. Learn to see it.

Effective shape comes from force and form.

1. *The Do's and Don'ts of Forceful Shape*

Since we have gone over what kinds of lines create force and form, let's discuss what kinds of shapes do and don't. Notice their similarity to the rules of force from Chapter One.



First the don't.

1. Don't create a shape with parallel lines. Force has no way of moving obliquely through the body. As we will discuss further, human anatomy is not built in a parallel manner.
2. Don't have the same kind of force on either side of the same shape. I call this mirroring. Here the forces crash after doing their function.
3. This is similar to number 2 in that the forces mirror each other. Here they collide at the peak of their function.

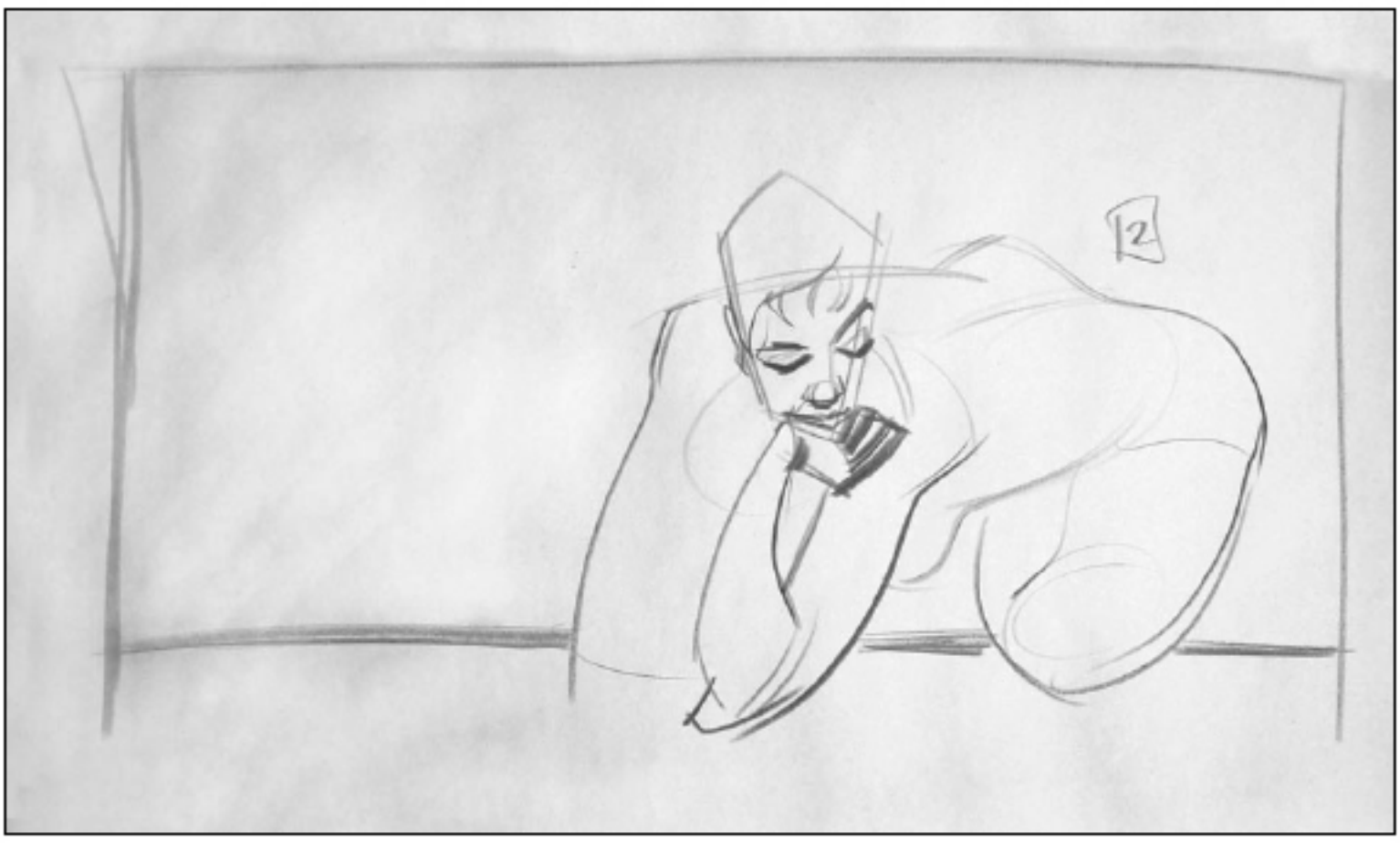
Now let's talk about the do's.

4. Do draw oblique forces. This is what creates rhythm. Think of the skiing analogy I made earlier.
5. Do see straight to curve simplicity in the figure. Here we have created a shape that has function or force to it. It is appealing because of its contrast in ideas, and it also has direction. There are no mirroring moments.

   The curve is the energy that moves through the shape, and the straight helps direct its path and give it structure.
6. Do see different kinds of shapes. Here we have straight to curve again, but represented in a different shape.

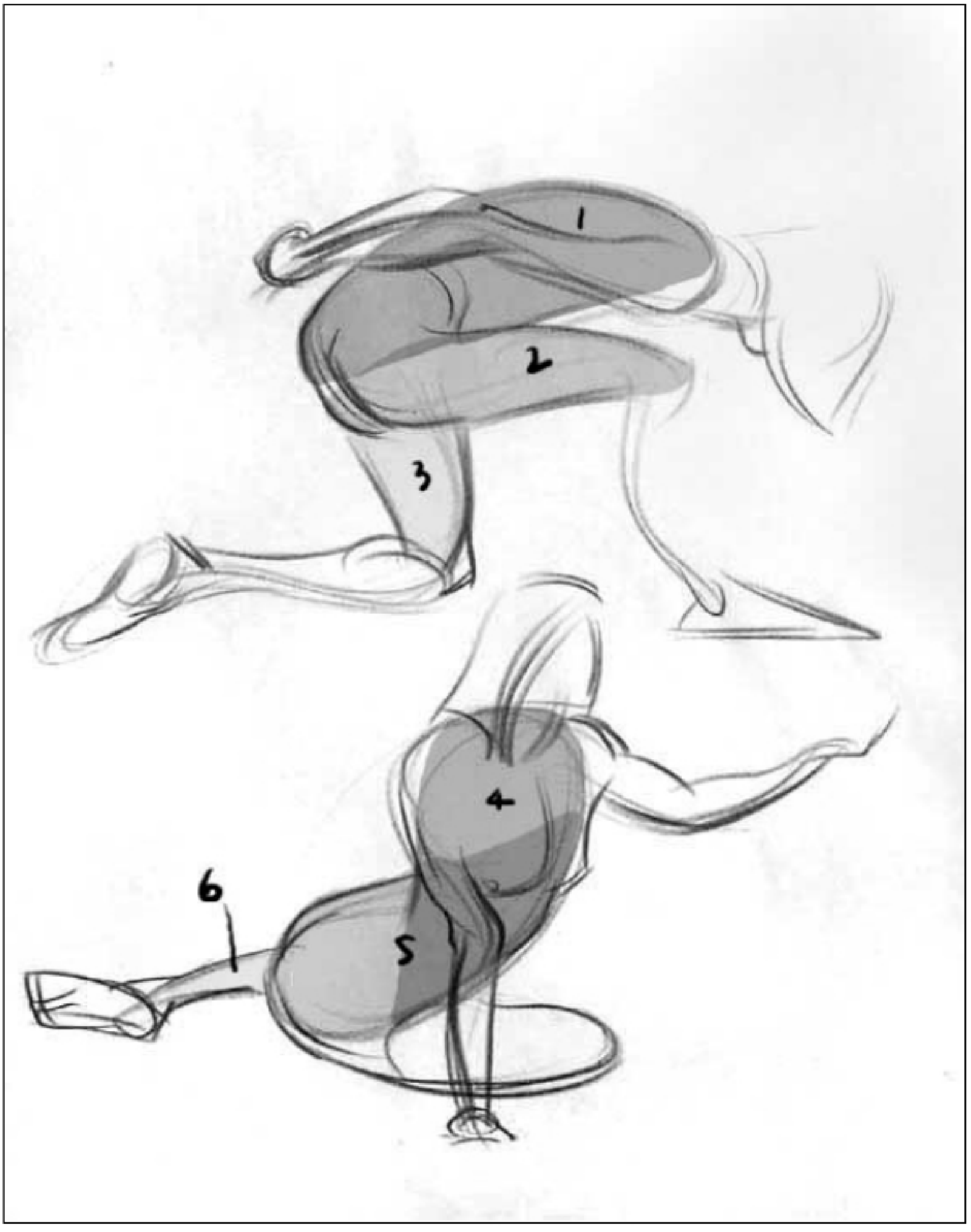
7. Do see the massive variety in which these rules can be applied. Here is a curve against a straight and a curve to give us a play of forces.
8. In this example, I want you to see how shape can explain form. Where the white shape overlaps the black shape, it describes its surface. The spatial concepts come in handy now. Size, overlap, and tangent theories help shape gain structure. You should still help yourself feel form to see more convincing, clear shapes.

An artist that I utilize to show students the graphic yet functional effect of straight to curve is Mike Mignola. He is the creator of "Hellboy," the comic book. His brilliant designs show forceful figures in a simple and efficient way. Check him out! His new book, "The Art of Hellboy," is awesome.

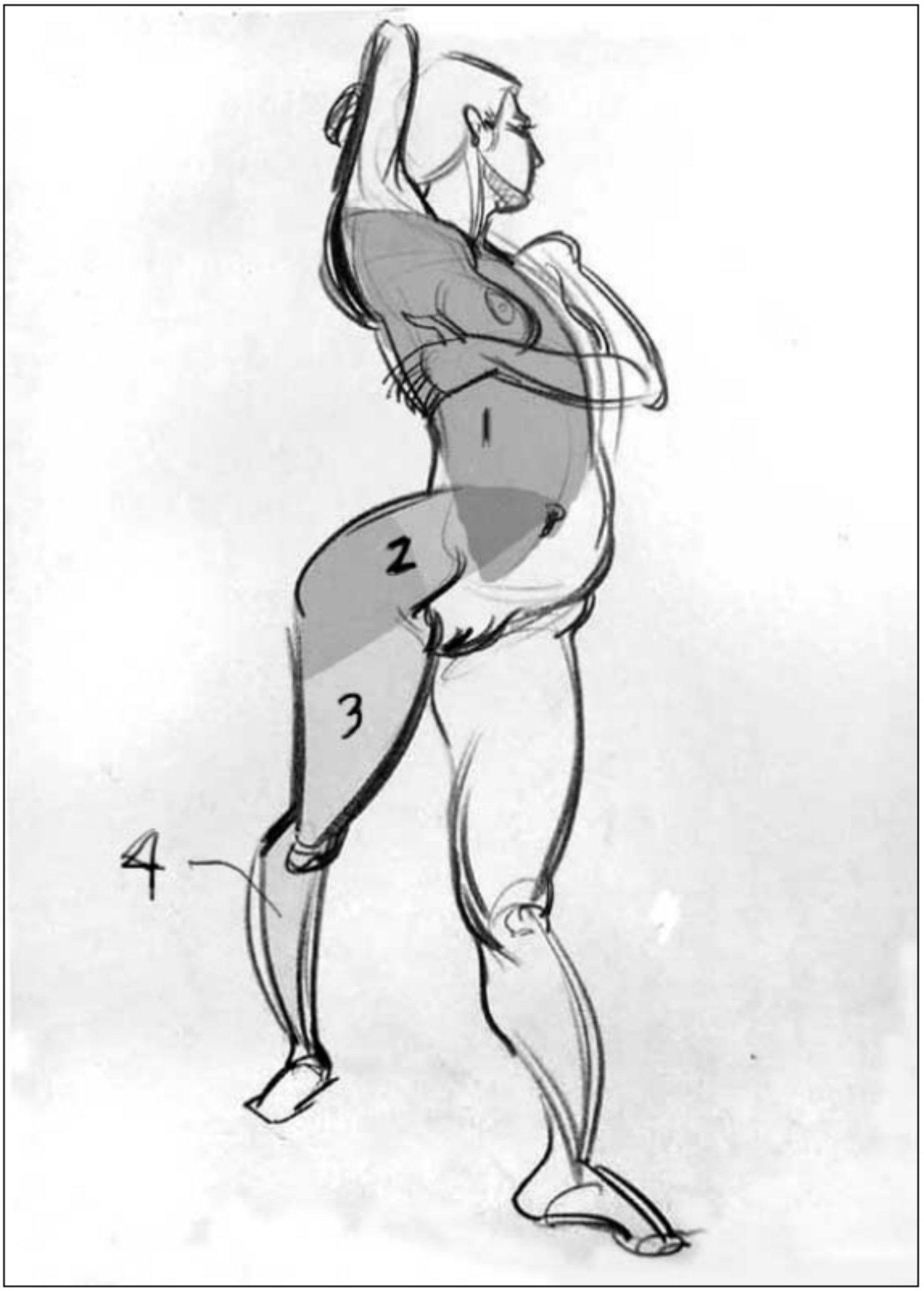


Here is a sample of just how efficient you can become with your line through the power of forceful shape. Look at the level of abstraction found here. Overlap becomes essential to fooling us into seeing depth on the page.

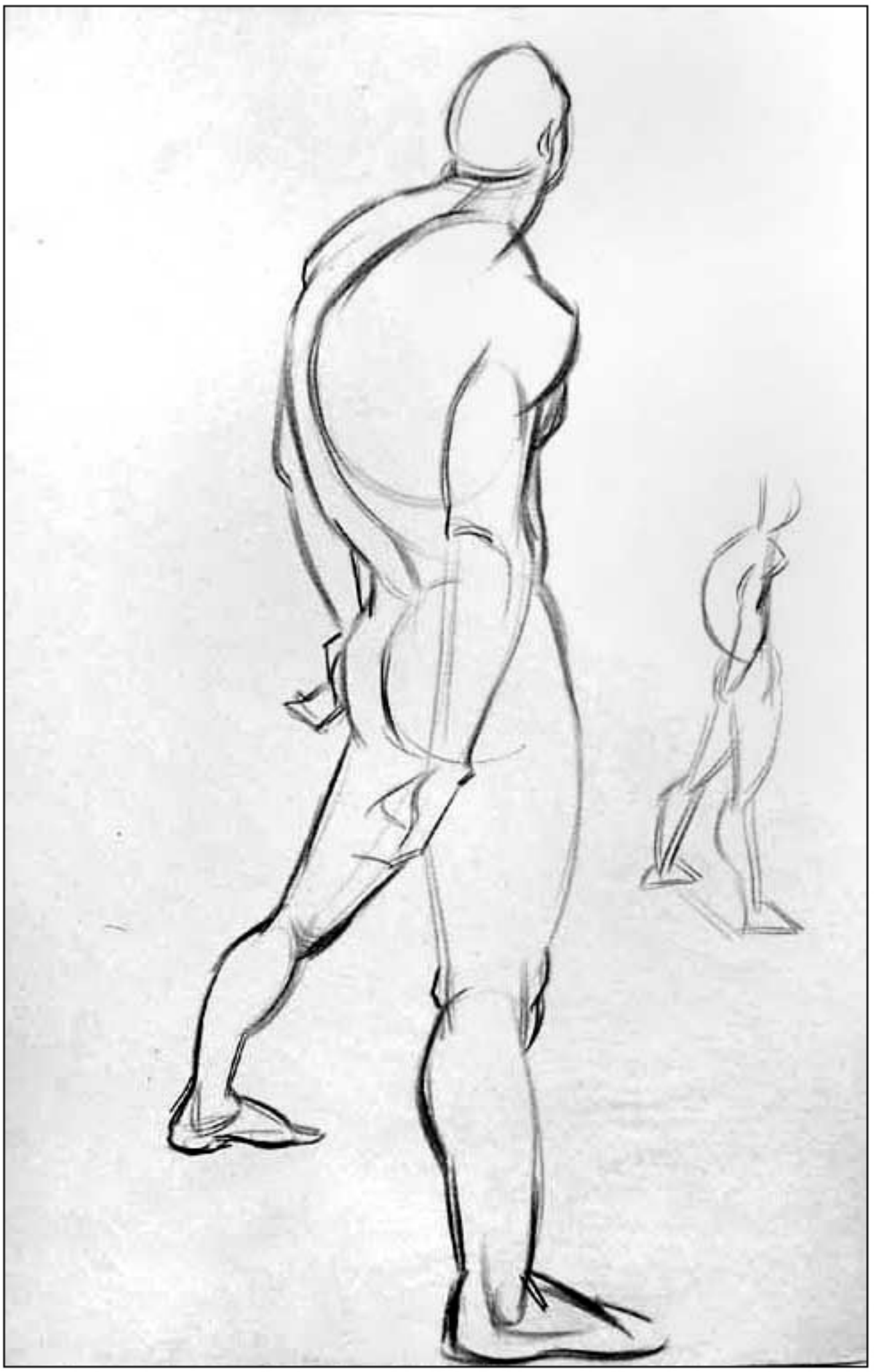
Going back to the hierarchical way of thinking, shape can be used on a large scale, first to address the greater issues and then the smaller ones. Again, we will start in a generic, graphic manner to pursue the issue of straight to curve design and then move on to specifics. Big straights to curves first.



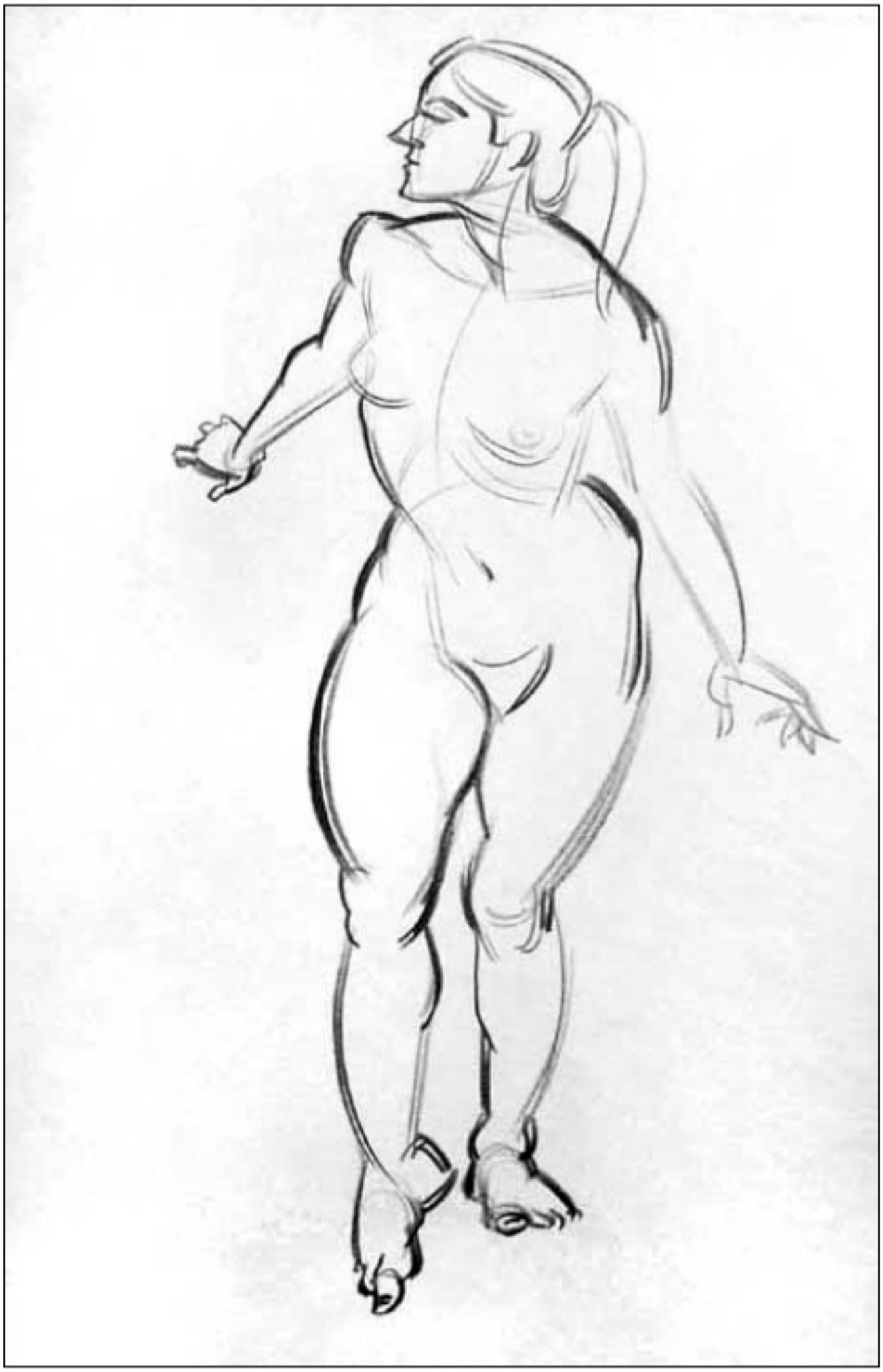
See the animated shapes in these drawings. Notice the absence of mirroring and how there is a straight for every curve of force. See the silhouette. Shape one and shape four both represent the torso of the body. In this comparison, they are opposite in function. Shapes two and three are basically the same idea for both legs. Five shows two shapes overlapping. Their connection is the abdomen. Six finally shoots us into the foot.



The road of rhythm is created by the overlap of forceful shapes from one to four. Shape one is our first in the pyramid, explaining the majority of the body.

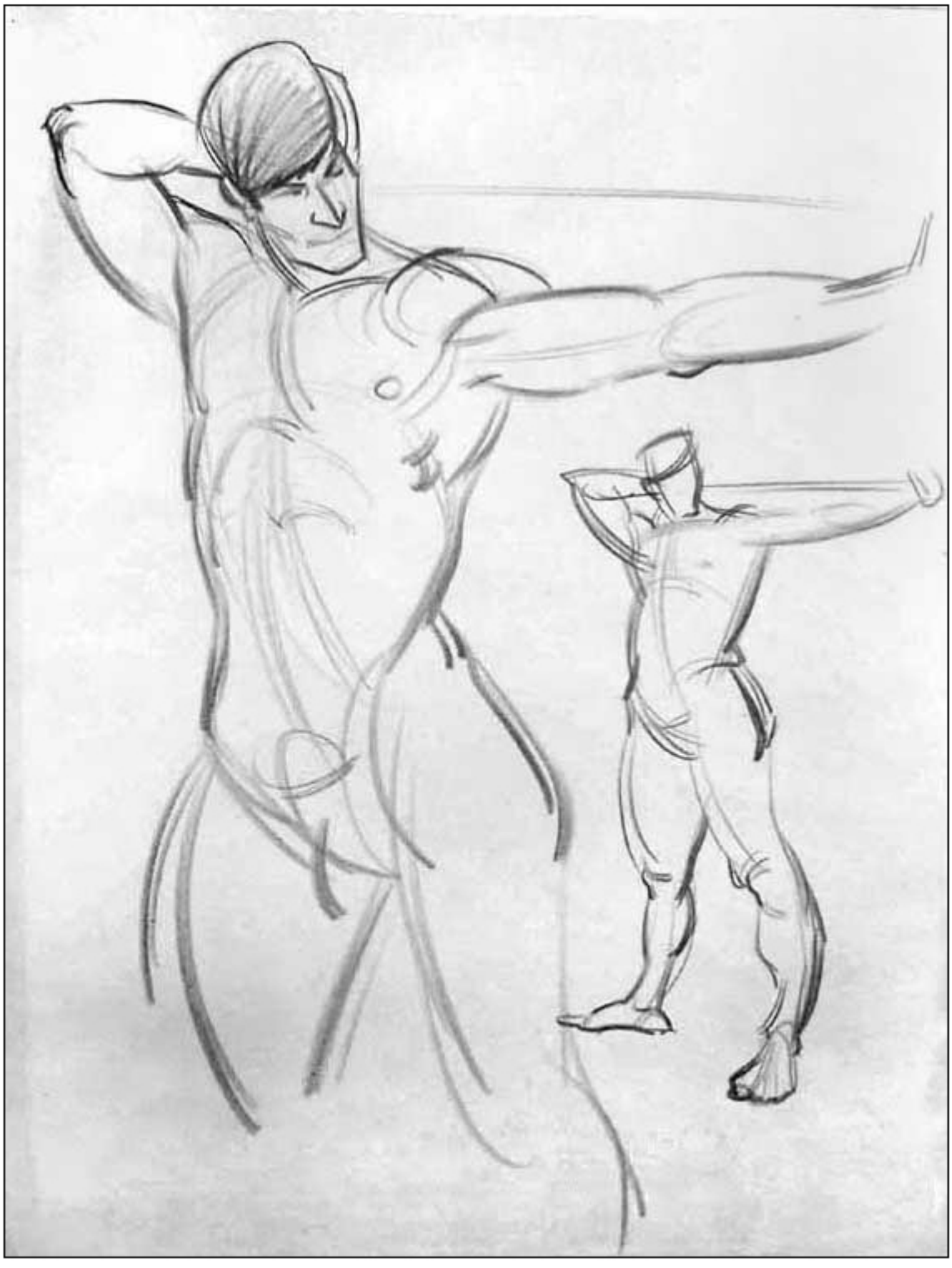


Look at the extremeness of the pose. See the straight of the chest relative to the curve of the back. We can see a smaller representation of this in the model's arm. The straight to curves move us from the deltoid to the triceps to the forearm and into the hand. Also notice the size difference in the feet for depth. See the thumbnail for clarification.



This silhouette gives us a clear contrapposto pose, the oblique balance between the torso and hips. This originates with the straight to curve of the upper body. We can see the plane of perspective she is standing on because of the location of her feet relative to one another. Look at the straight to curve shape of her left hand and the size difference between both hands. This implies depth. Her facial profile gives us the direction that her head is pointing in.

Mike's drawing has simplified the body into the straight to curve shapes. Look at the back relative to the front of the ribcage. The right arm is another good example of this theory. The fluid hair shape is fun, too. See also the size effect of the foot here.



In this drawing, let's look at how straight to curve strengthened the story of the pose. The curve of the front of the model's ribcage and belly is not strong enough in the large drawing. He weakly leans to the left side of the page. Through seeing silhouette and the concept of straight to curve, I strengthened the push of the back into the belly with the straights in the upper back and hips. This helps the clarity of the rest of the pose as seen in the thumbnail. I like the strong curve of the left arm pulling on the belt.

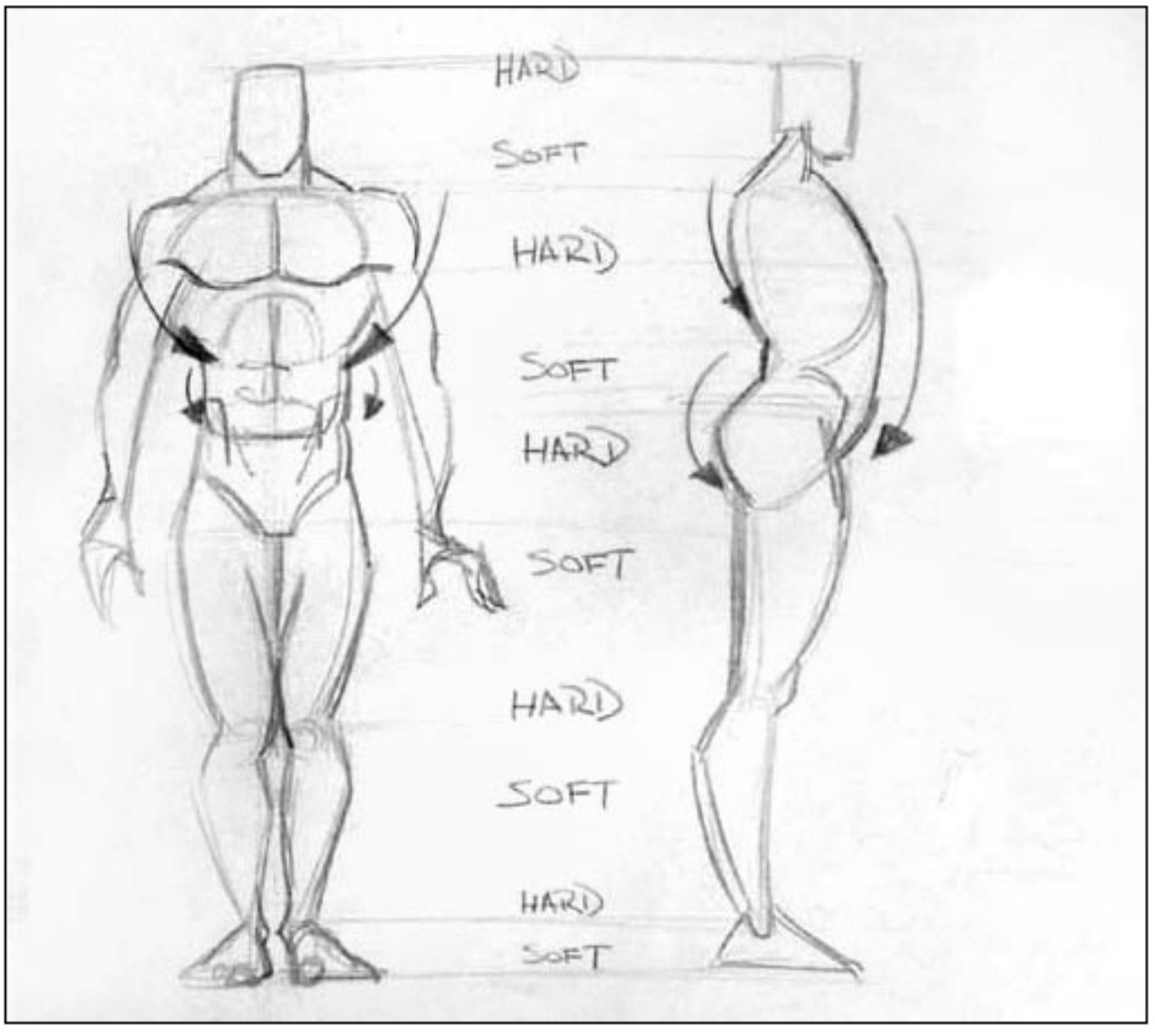
The largest example of forceful shape is her upper body. The left side is the straight and the right is the curve. This drawing is full of stronger against weaker curves like the one in her right foot. This same shape appears again in legs, arms, and the fold of skin that wraps around her ribcage.

Remember to see the big straight to curve ideas of the body to create a more forceful silhouette.

C. Anatomy as Shape

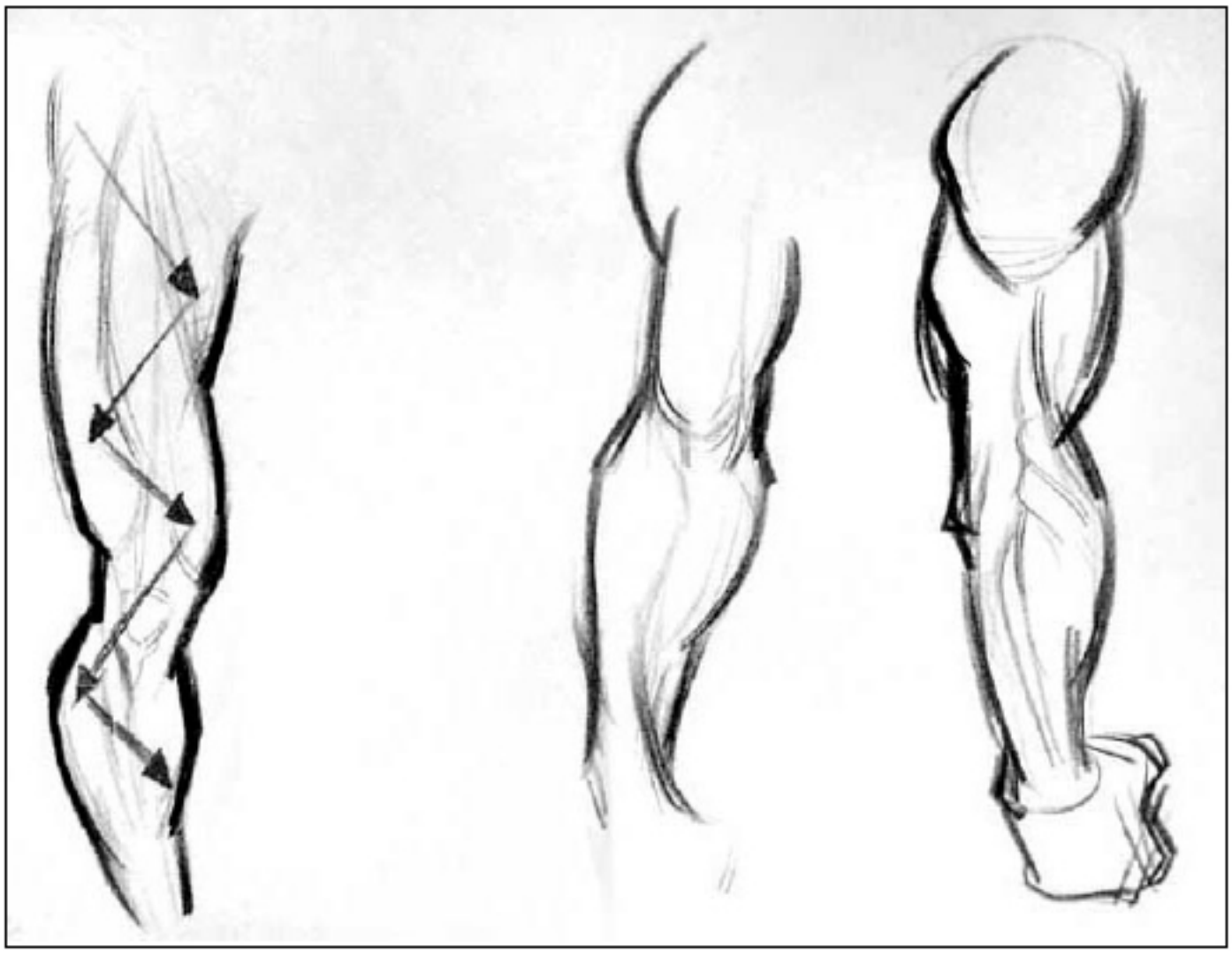
Forceful shapes can get more specific. I want to discuss some powerful theories about the anatomy of the body that pertain to force and rhythm as seen by forceful shape. The body, as I said earlier, is built to move. Its musculature is set up in traverse angles from one area in the figure to another. These relationships allow it to perform. If you work out or you are a physical therapist, you know exactly what I am talking about. The biceps are opposite in function to the triceps. The biceps bring your hands to your shoulders and your triceps help straighten your arm.

In the following drawings, we will travel from simple to complex depictions of the power of the human form through forceful shape.



Here I want you to see that, as a whole, the body looks symmetrical. Because of this, the torso of the figure feels rigid. Its left and right edges are a mirror image of one another, causing forces to collide (as the arrows show). The torso does not work from left to right, but from front to back. It is in the torso's profile that we see how this complex organic entity is built to move and operate.

At this time, I also want you to be aware of the fact that the body is built in a hard bone and soft muscle pattern. The head is hard, neck is soft, ribcage hard, abdomen soft, pelvis hard, thighs soft, knees hard, calves soft, ankles hard, and the bottom of the feet are soft. The soft areas are what make it possible for us to move the hard ones.



The limbs of the human body, although always paired, have asymmetry within themselves. Look at the drawing of the leg. Look at how its musculature creates asymmetrical forms and therefore a functional and appealing shape. The same goes for the drawings of the arm. There are no moments of mirroring or equal forces being found on both sides of a shape. The shape of the body's anatomy always gives us a feeling of functionality. A simple way of seeing this is to notice the peaks of force on the sides of a shape and making sure that they are not directly across from one another.

J.C. Leyendecker was the master at putting everything we have discussed so far into his work. He was an illustrator from the earlier part of the twentieth century. His work shows decisive shapes that are full of force and form. They are created with clear straights and curves. There is no laziness in his work. Leyendecker would have been a great character designer had he been alive today. I strongly suggest looking at his work. It is difficult to find much of it. There is a poster book called "The J. C. Leyendecker Collection: American Illustrators Poster Book" that is available for sale. There is also an older book that is extremely rare, but full of his paintings: "J.C. Leyendecker" by Michael Schau.

Dean Cornwell is another artist from this time period. I would like to make you aware of him before we move on. His forceful design is not as strong as Leyendecker's, but he is powerful in the area of structure. His work leans towards straighter, harder moments. He also has some great definitive shapes in his work. There was also a book published on his work called "Dean Cornwell, The Dean of Illustrators" by Patricia Janis Broder.

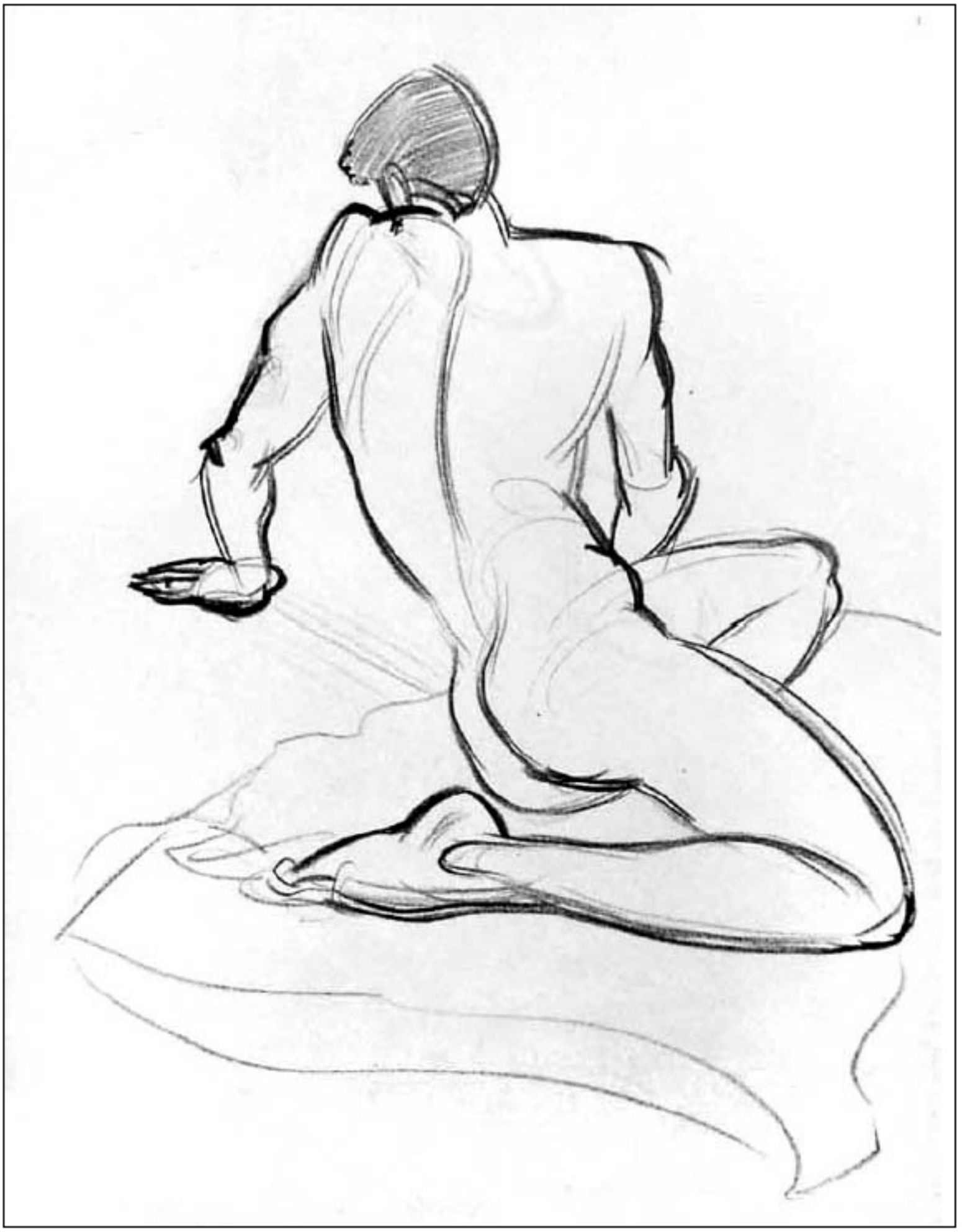
The theory of straight to curve allows you more exaggeration, clearer opinion. Make a statement with every shape.

Here you can see the exact example of the asymmetrical legs at work. Look at the straight to curve of the ribcage, the hips, shoulders, and arms. Notice the apexes of force and their asymmetry. Look at the thumbnail for straight to curve silhouette.

The clarity and understanding of this pose epitomizes all levels of drawing, force, form, and shape. Its simplicity is what makes it so successful.

I love the sense of thickness conveyed in her back and buttocks by the curve in those areas. See the small straight of her ribcage to define structure. Look at the asymmetry found throughout. The simplicity of straight to curve of her left arm gets the idea of force and form across. Notice the structure of her head and the shape of her hair.

Definitive lines show us a lucid understanding of the forces and forms of this model's pose. Look at the asymmetry in the arms and upper body. See how the structure of the back created its shape.



Look at the efficiency. This pose is complex in its idea. The model is turning over his left hip and sustaining this torque with his left arm. His right leg is closest to us and is also under a certain amount of tension, caused by the rotation of the upper body. The model's figure consistently moves away from us in space. See the subtle references to depth in the overlap and the light structural lines. I enjoy the quiet reference made to the left shoulder blade and how it relates to the operation of that shoulder.

I love the power of this drawing. It is opinionated. It tells us what the model was doing, loud and clear. Look at the shapes created by the anatomy and how much force they imply. His right arm and buttocks are two unmistakable moments of this. See the structure in the straights and the force in the curves. His silhouette can be easily understood. See how his legs work relative to the torque in the upper body.

Line has no form; shape does. In this chapter, force has been described in the rules of straight to curve. That led us into asymmetrical anatomy. Lastly, to modify everything into successful shapes, we turned to the silhouette. Its clarity is as strong as a magnifying glass in looking at all of the preceding concepts. Here you can see if everything is working successfully.

D. Reaction, the leap of faith

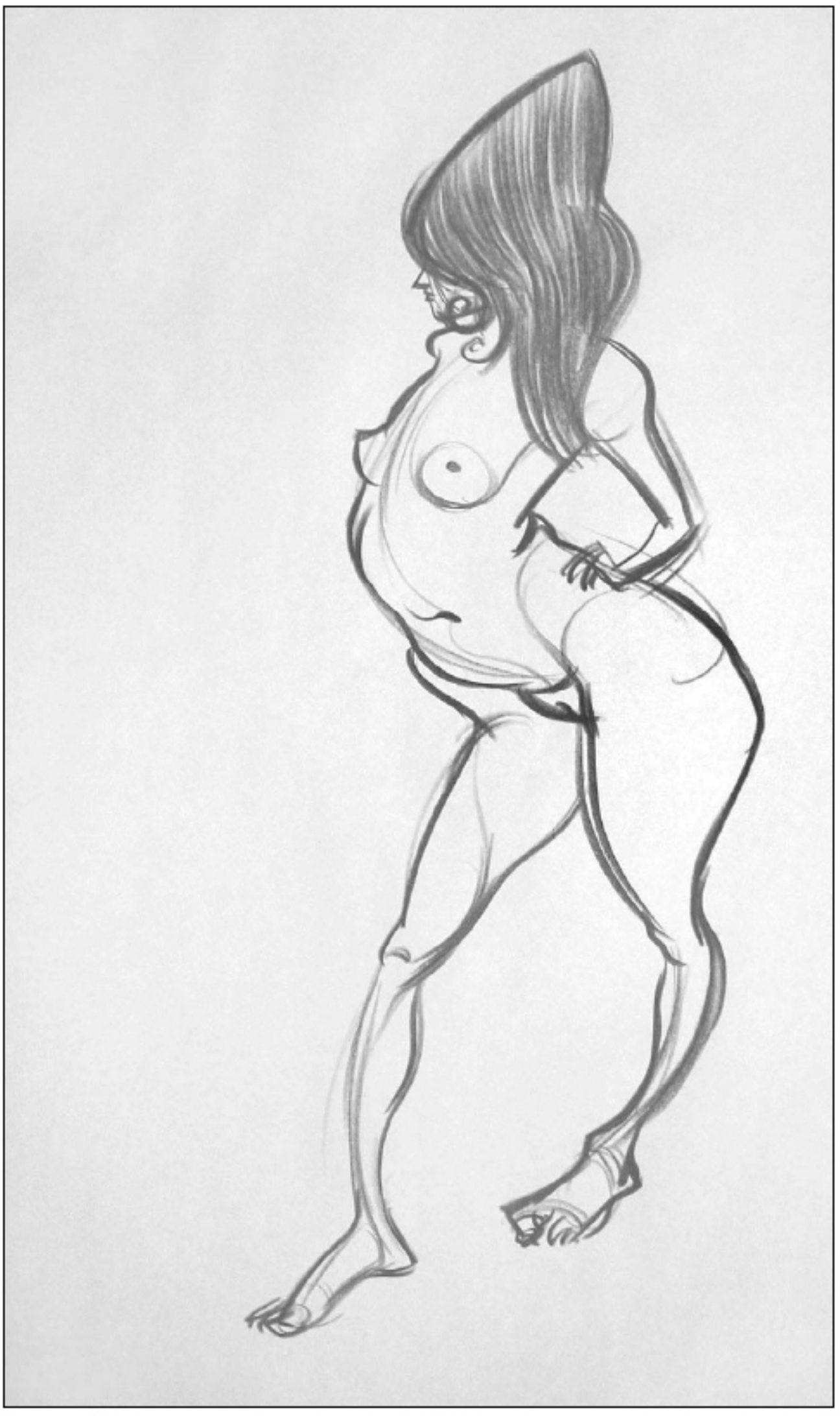
A great deal of drawing is academic, but what finally gives it power is your reaction to the reality in front of you. This reaction is pure opinion relying on academic knowledge. Reacting means you don't have time to copy. You go after full concept and feeling. The more you learn how to draw, the clearer and more powerful your reactions to the figure will be.

It is time to have faith in your abilities. Put yourself out on the line, take the leap of faith, and fearlessly enjoy your experience with the model. Give the drawings some of your heart. With the closing of this half of the book, I want to share with you some drawings that express my exhilaration in drawing the model.

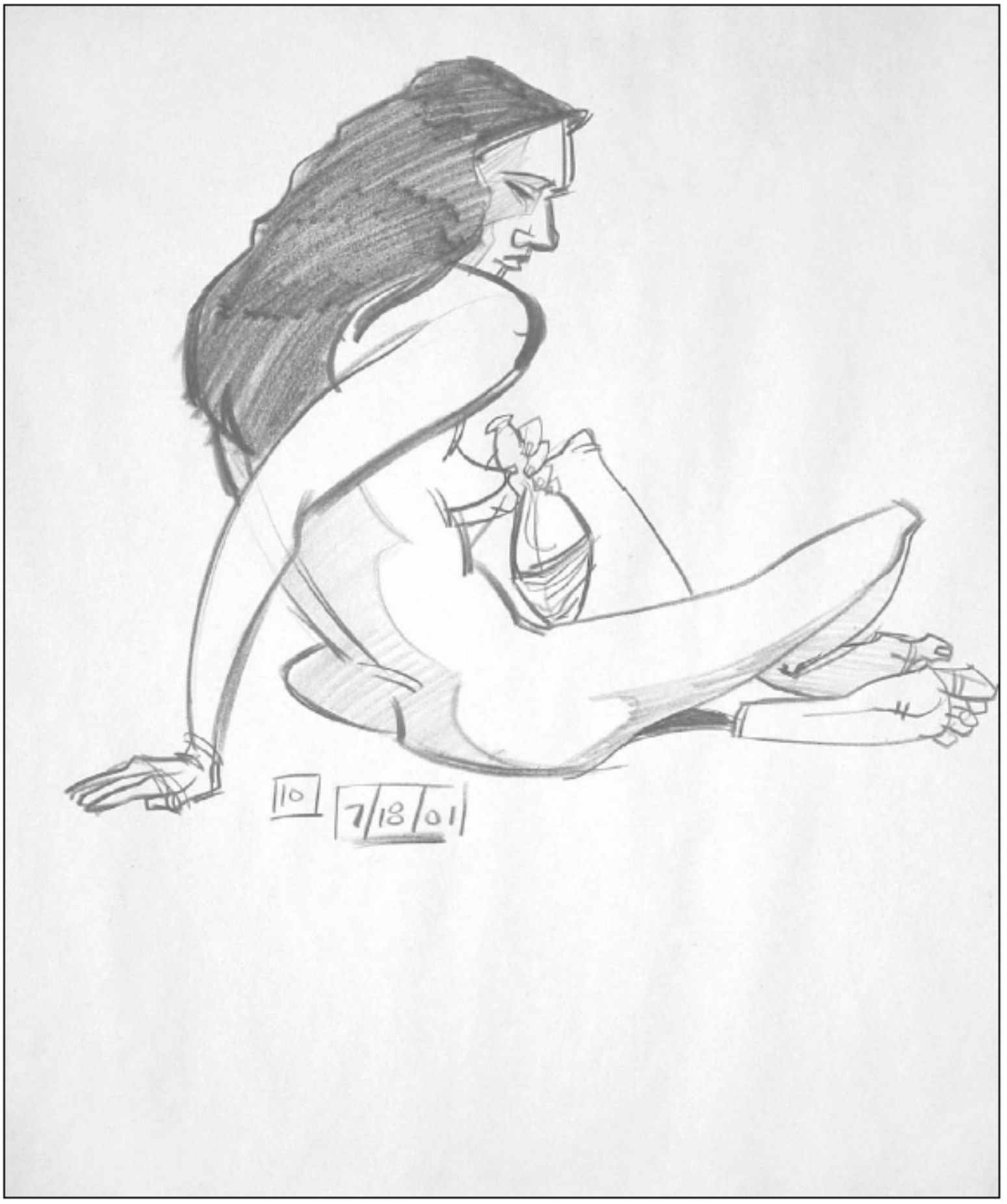
Shorter poses are a great way to force yourself into reacting.

"Exaggeration, the inseparable companion of greatness."
Voltaire

My opinion here was, Wow, look at how immense his upper body is. His feet are so flat and thin. I enjoyed the fluid quality of his arm and thickness of his leg. These moments are all ideas that occurred in my initial reaction, ideas which I stuck to instead of getting caught up in copying the model.

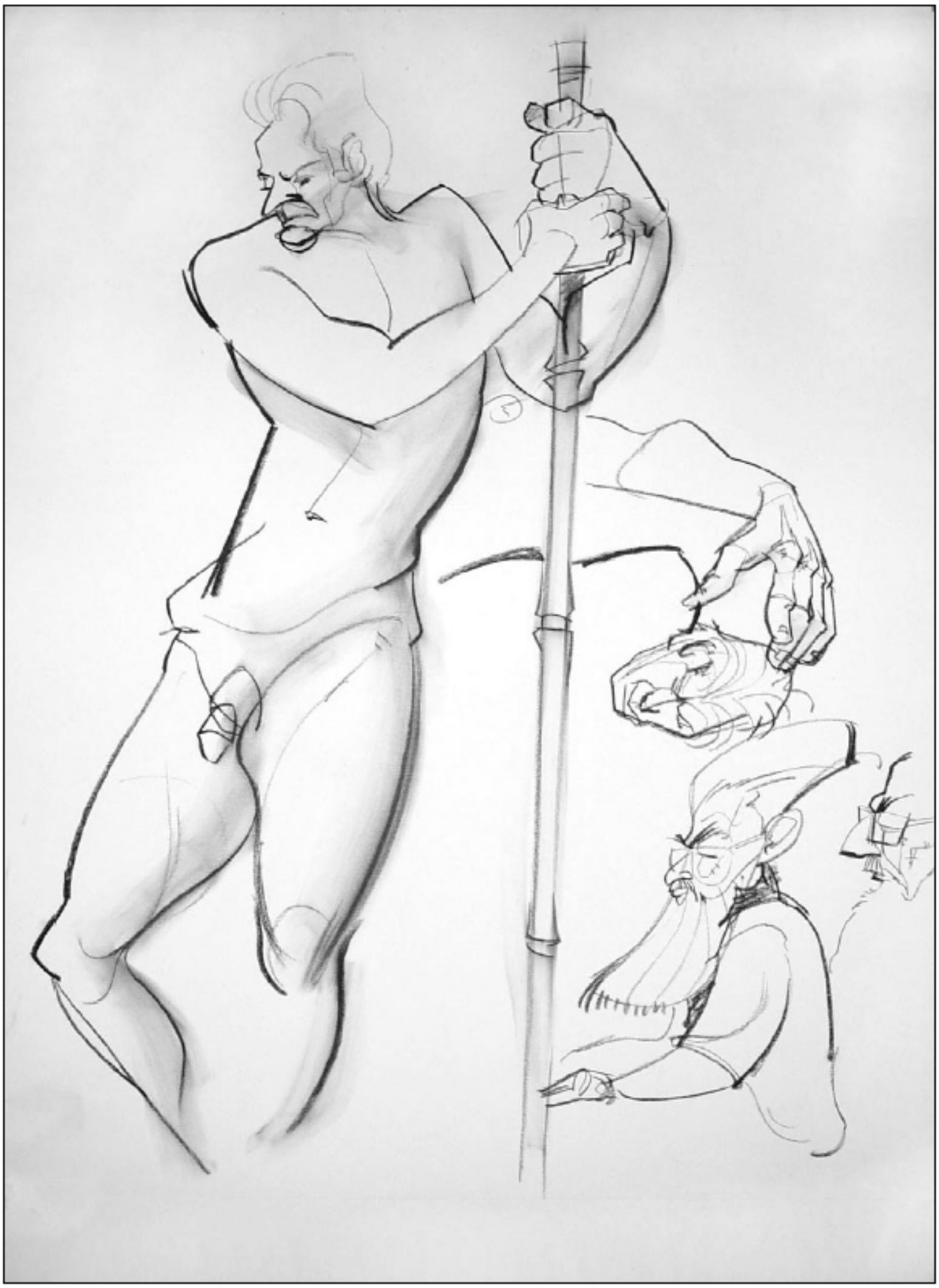


Sloped head, extreme pose, and thin legs are just some of the reactions I had to the model in this pose.

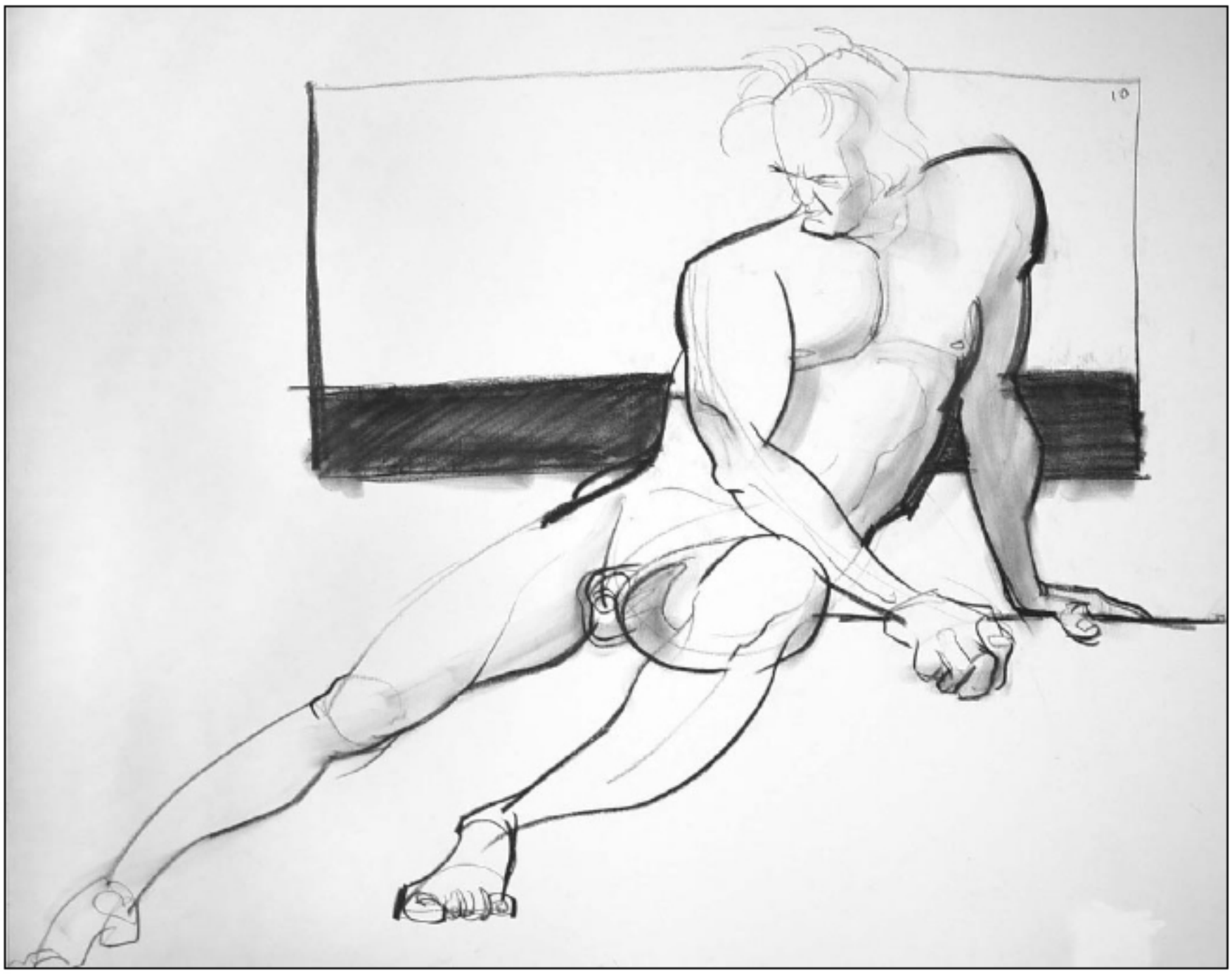


Long thin legs and feet are expressed here. The weight is on her buttocks and the force is in her right shoulder. The expression on her face has also been captured.

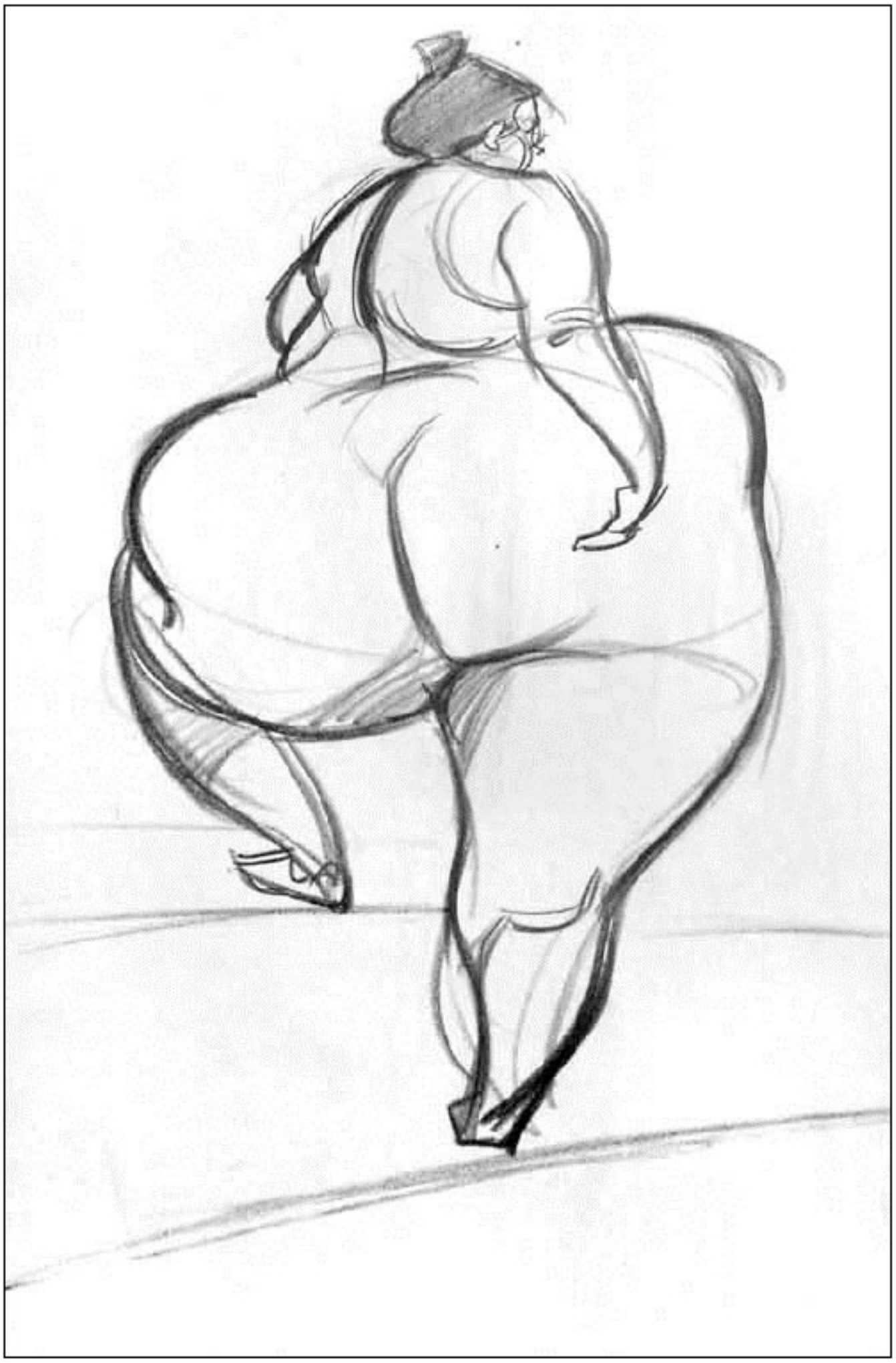
The next three drawings are all the same model. Each drawing has a different opinion. Here, pushing the abstract idea of shape helps us see the model on a new level. The simplicity of shape helps me develop my opinions.



A crazed, angry old man with a short neck and long torso were thoughts that occurred to me during this pose. On the right, a fellow artist is hard at work.

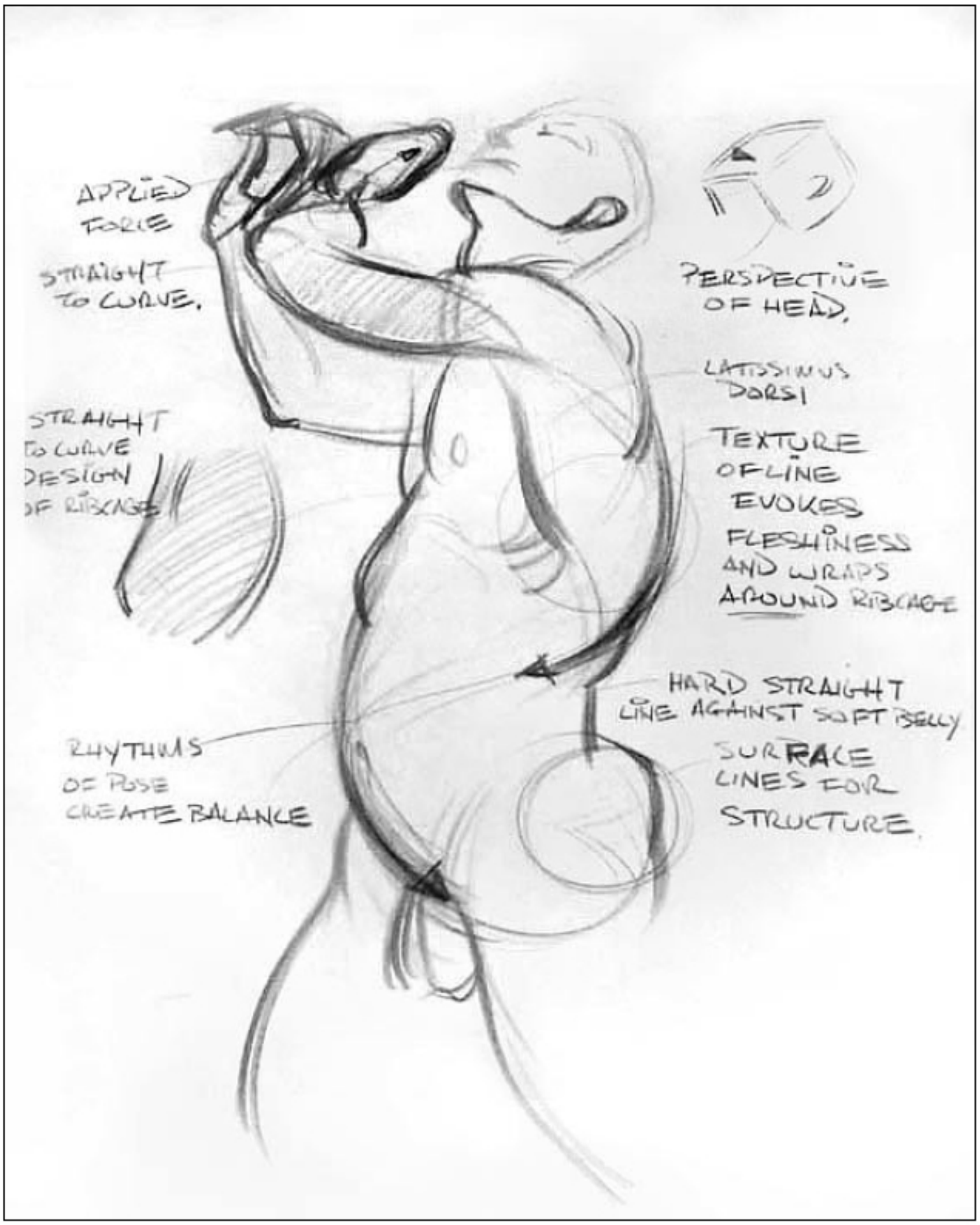


Here is another entirely different story. It was a godlike quality that I was after. The massive shoulders, large hands, and crazy hair make for an interesting statement. Notice the lack of under drawing. Each opinion about the model is expressed as I reach it.

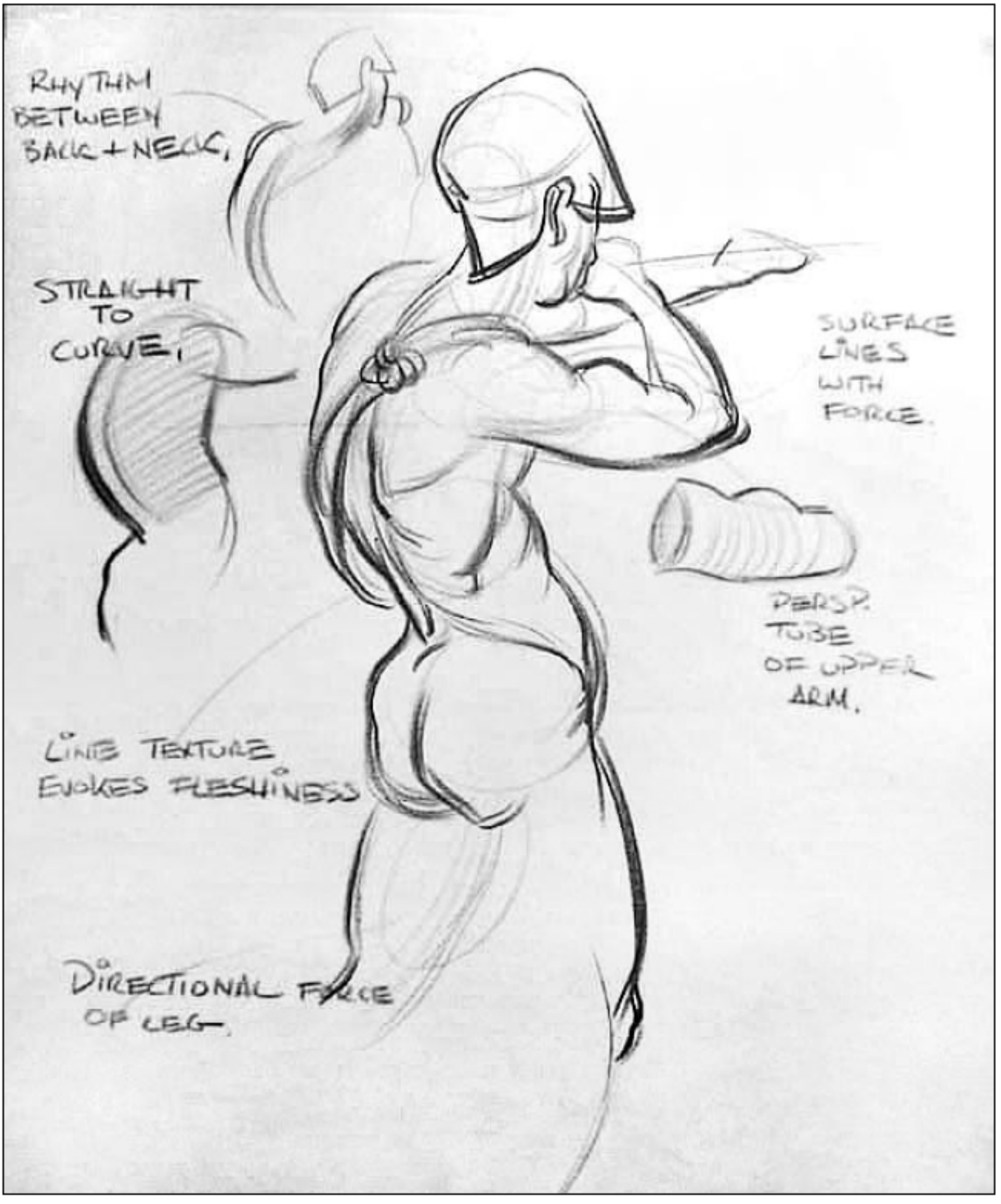


Yes, there is the obvious, but I also shortened the upper body and size of her head to push my ideas.

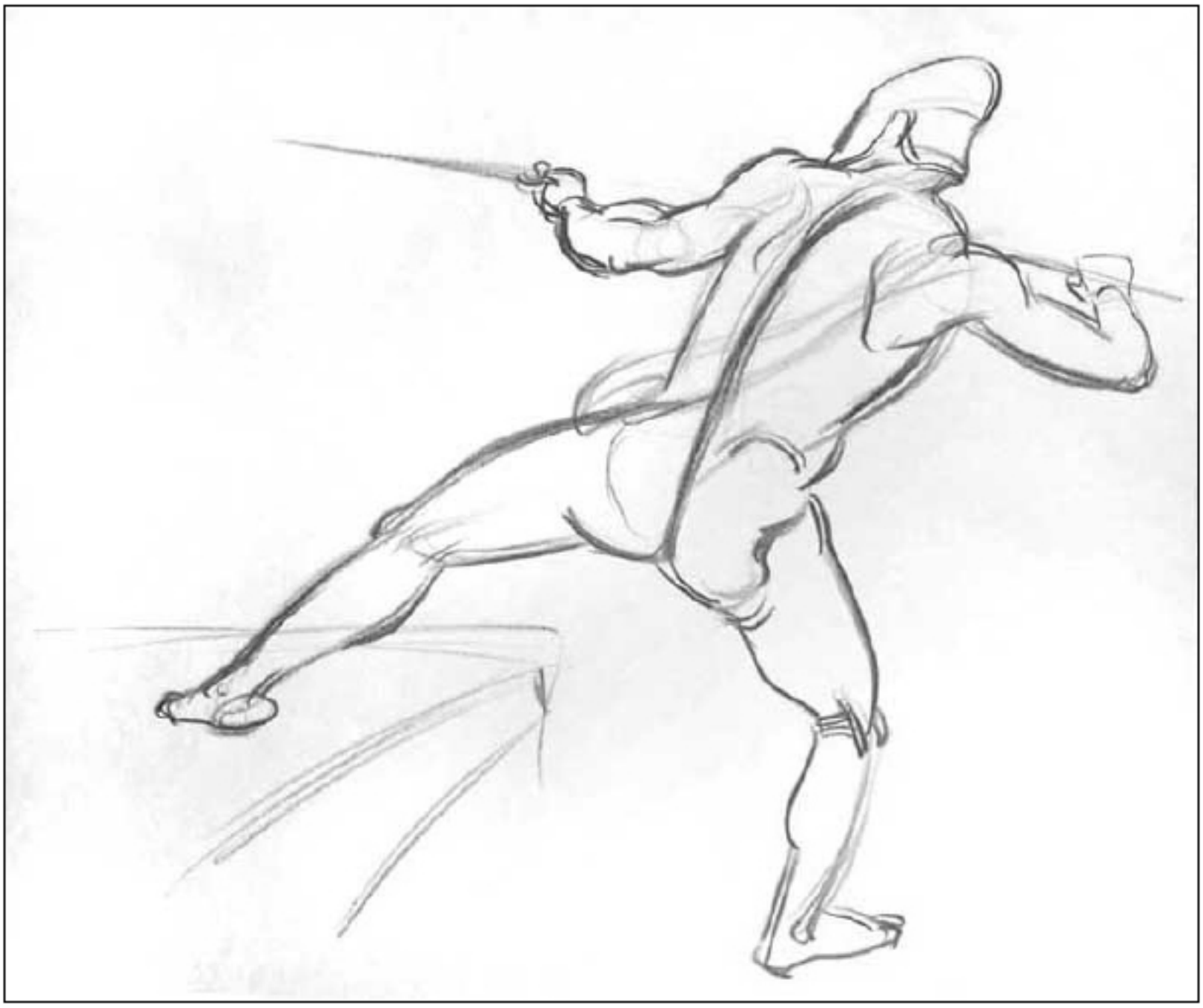
These last few drawings are our wrap-up for the first half of the book. They also introduce us to the next chapter. Look at the texture of line in these drawings and how it affects the story of each pose.



I love the graceful flow that brings us up from the belly through the back and shoulder into the left hand. The fleshy lines let us enjoy the model's muscularity. See how the small hard straight of the lower back is enough to give us strength between the ribcage, belly, and hips.



Look at the wide variety of ideas expressed. Of course there is force, form, and shape, but beyond that, the variety of line pressure brings us closer to the reality of the model. See the hard point of the shoulder blade against the meaty thickness of the latissimus dorsi. See how specific you can get about a model without losing your sense of the pose's rhythm.



In looking at texture, feel the difference between the effort of the left and right leg. The left is full of speed evoked by fast, long, aggressive curves. The right leg was drawn with great pressure, in a machine-like manner. It stands more still and hard as strength for this moment.

As you can see from the previous drawings, the pressure of the line I created them with established the hardness or softness of the subject I was drawing. A simple example about the application of this reality that I mention in class is if you were to draw a brick and a rose, you should draw them with two notably different types of line. The brick would be drawn with a hard, angular line while the rose would have soft, delicate curves.

Let's talk about Michelangelo's Pieta'. What is so amazing about his sculpture is how marble is made to look like flesh, bone, and cloth. Yet of course, if you were to touch it, it would be cold and hard. Its shapes fool us into thinking otherwise. The long smooth curves invent flesh. If you were to accurately draw this sculpture, it would have to be with harder lines. When drawing a real human being, the shapes should be drawn with the amount of pressure on the pencil that most closely resembles the texture of what it is you are drawing. The bone being harder than muscle is one example. Look back to the drawing that describes the body's textures to apply this theory.

Drawing clothes is a great way to experience different textures through line. Let's take everything we learned in the first half of this book and move onto the second.

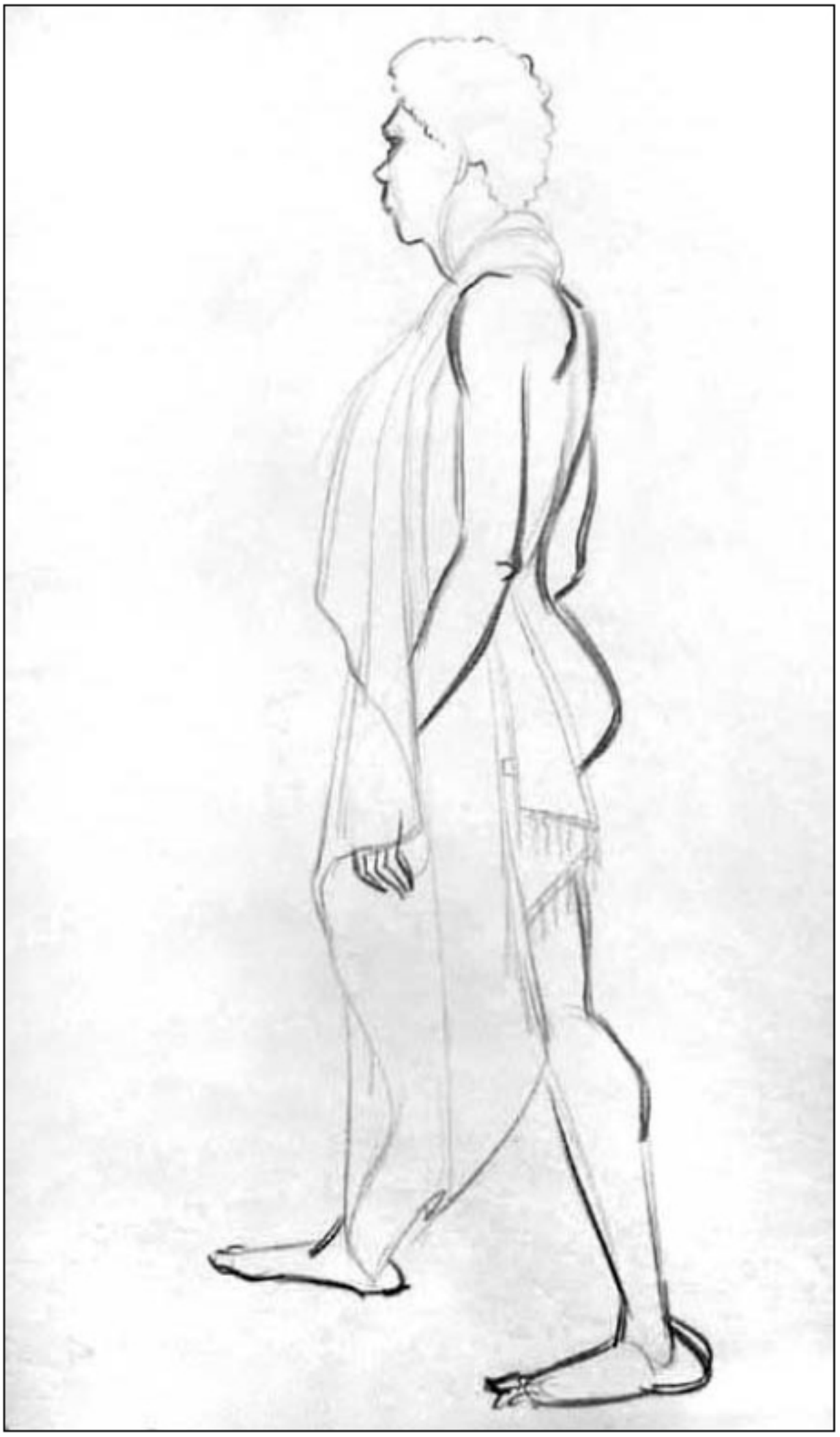
Chapter Four: Clothing

A. The texture of line revealed

Drawing fabric is a great way to experience line's ability to express texture. Most fabric feels different from skin and bone. This gives us a great contrast to experience.

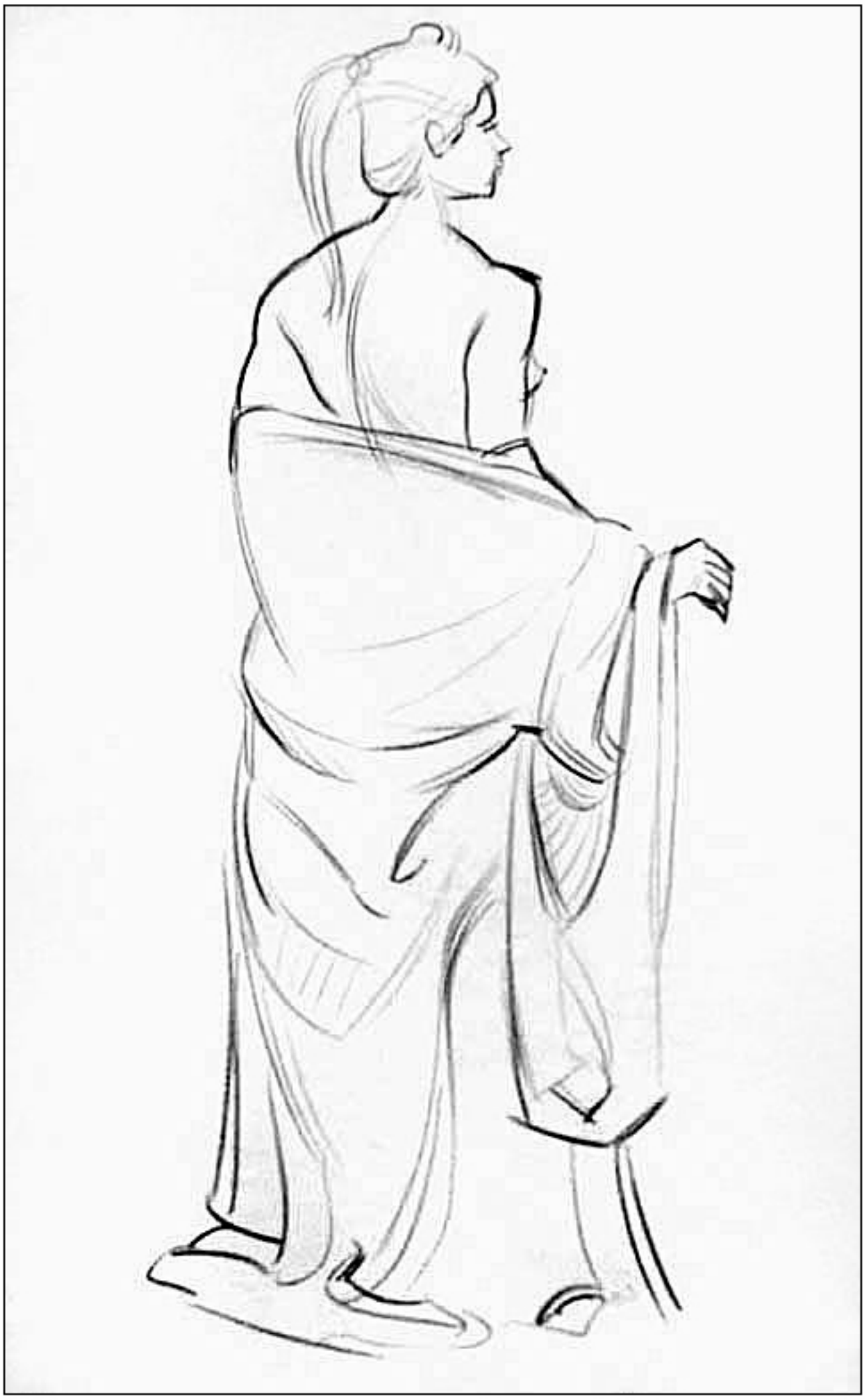
Fabric has no form; it is like paper, thin and flat, without energy. When something is done to it, it takes on different properties. Say we crumpled it. Then it would sit as a wrinkled mass with no function except that of the material itself, weighed down the force of gravity. There is much information that can be collected from it at this stage. The softness or hardness, thickness or thinness, can be recognized by the formation of the wrinkles. As soon as we hang the cloth on something, the weight of the material comes more clearly into play. Look for this information in the following drawings.

Mary Ellen's drawing is full of texture. See the hard, curious foot and the straight line of pressure of the buttocks on the stool in comparison to the curly, flowing material hanging from it.



Here we can tell that the material is thinner and yet somehow harder than the last. It folds in angles and straighter lines. You can see this around the neck where we also see how clothes can begin to describe form. I like the texture of the strings hanging from the material.

The hardness of the ribcage, left shoulder, and elbows against the soft, flowing material wrapped around the model's waist gives us a great variety of sensations. See how the type of line, the way it curves, and the pressure I used to draw it tell us about its weight and feel. The fabric is heavier and thicker than the previous.



The model's long, wispy ponytail stands out against the solidity of her face and figure. The fabric is slicker and harder than the others. The wrinkles are pointy and change direction aggressively. Look at how the robe wraps around her arms and then hangs from the right wrist. I like the small, hard, straight line that represents the bottom end of the cuff.

In this last drawing focusing on texture, feel the crumpled quality of her dress against the tight top and the leather of her boots.

B. The function and form of fabric

Everything we have learned so far has prepared us for the next step: drawing the model clothed.

The first thing to remember when drawing the clothed figure is that you are drawing a clothed figure. You must understand a figure's actions and anatomy before you can tackle the issue of clothes.

Fabric now takes on the forces and form of the person wearing it, thus making it clothing. Clothes hang on us, usually from the shoulders and the waist. Paying attention to the moments from which clothes hang is most of the story when it comes to drawing clothes.

Clothes can be a quick read as far as what the body underneath is doing. For example, if someone in a shirt were to bend over, you would see crumpled cloth around the stomach and stretch over the back. This is a symbol of the simplicity of the figure's function. The same phenomenon can happen in a smaller moment, like a bent knee or elbow.

The other major attribute of clothes is the fact that they wrap around the form of our figures and have holes to suit the way our bodies are built. Look at collars, waists, and sleeves, and also don't forget the seams where the clothing has been stitched together. These examples can help you describe the figure's form.

When first confronted with drawing the clothed model, I find it wise for the student to first find the function and form of the model. Then draw the clothes and notice where they hang from. See how the story the clothes show you relates to the forces of the pose. In the beginning, draw all of the wrinkles you observe. This will more quickly make you realize how clothes work.

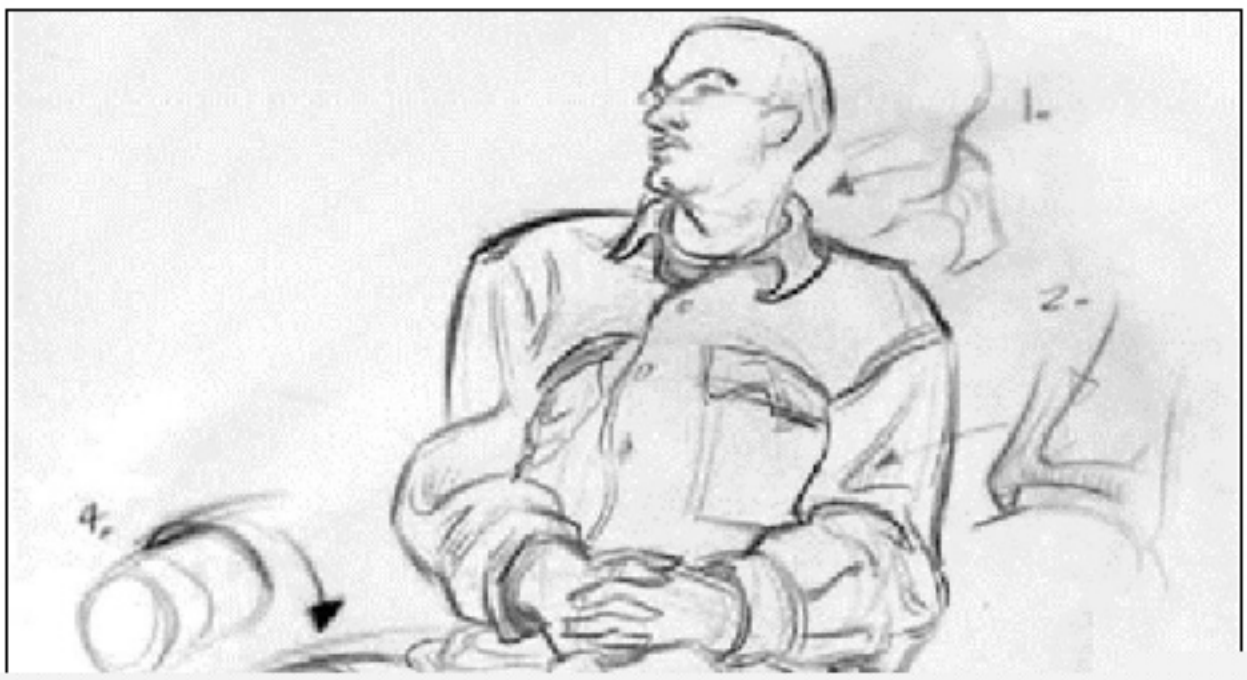
A couple of books I can recommend on the subject of clothing are "Dynamic Wrinkles and Drapery" by Burne Hogarth and George Bridgeman's "Complete Guide to Drawing From Life." Hogarth's book is good in that he explains clothing in a directional force oriented method. He shows different types of wrinkles and pulls in clothing. The problem with this book for animation is that he draws all of the wrinkles and therefore the illustrations are too busy. You don't want to get caught up in doing this yourself. Clarity of the idea of the pose is what will make your drawings strong and loud.

Bridgeman describes different types of folds in the back of his book. They also are good to know. I believe that in the end, your observation and understanding of what the body is doing will help you achieve more believable clothed figure drawings.

Here is a recap of ways to approach the clothed figure:

1. Recognize the type of material you are drawing. Different materials wrinkle in different ways. Their breaking points vary and the kind of line you draw them with can express their texture.
2. I look at how and where on the body clothes hang from. Find the point, i.e., the shoulders, waist, or knees.
3. Always use the exits and entrances of clothing to help define form. I'm talking about the collar, sleeves, waist, etc. The stitching is just as useful. Look at where sleeves are attached or how pants are put together.
4. See the simplicity of stretch to compressed. Clothes can quickly tell you what is happening.

Leyendecker and Cornwell were both excellent at drawing clothing.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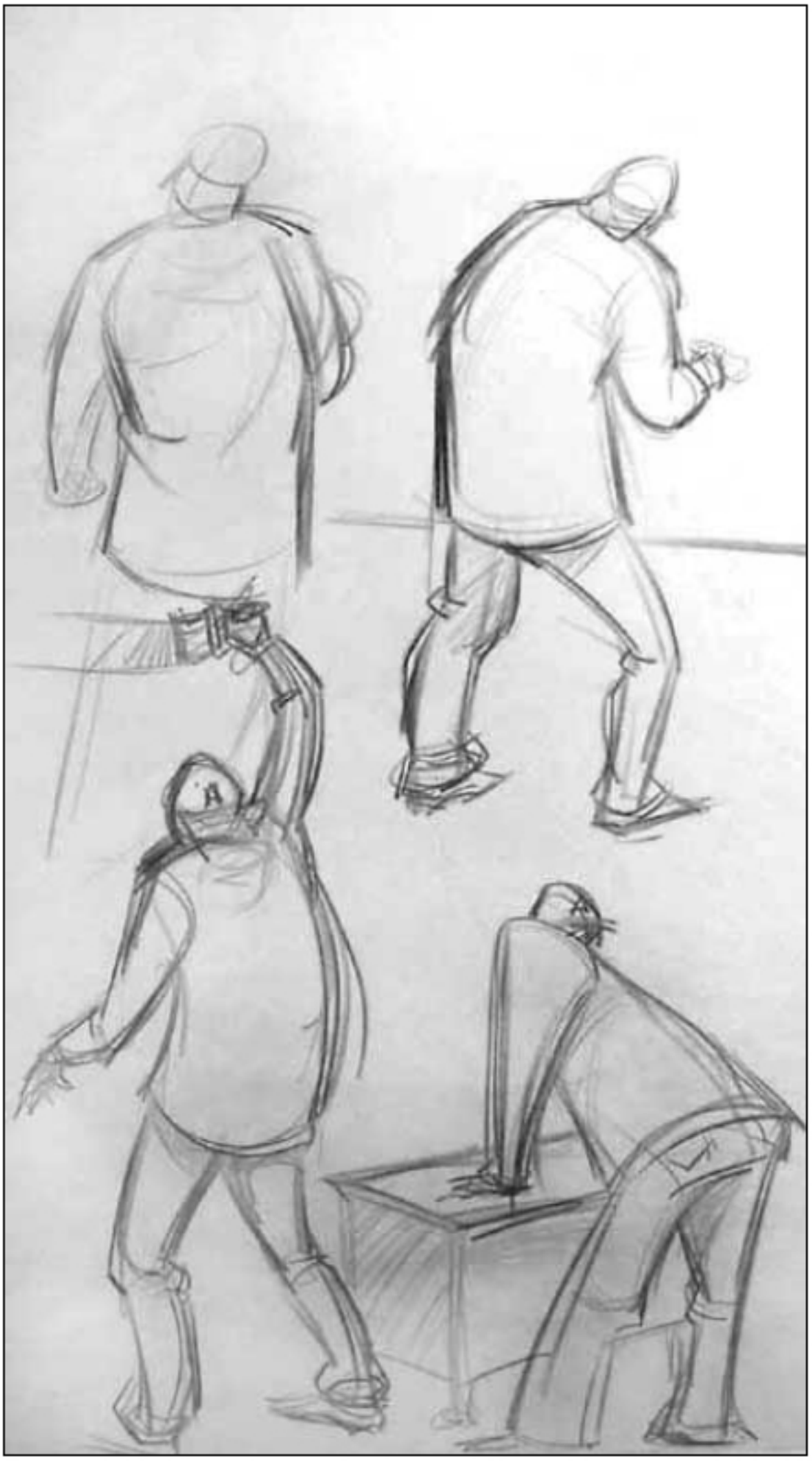
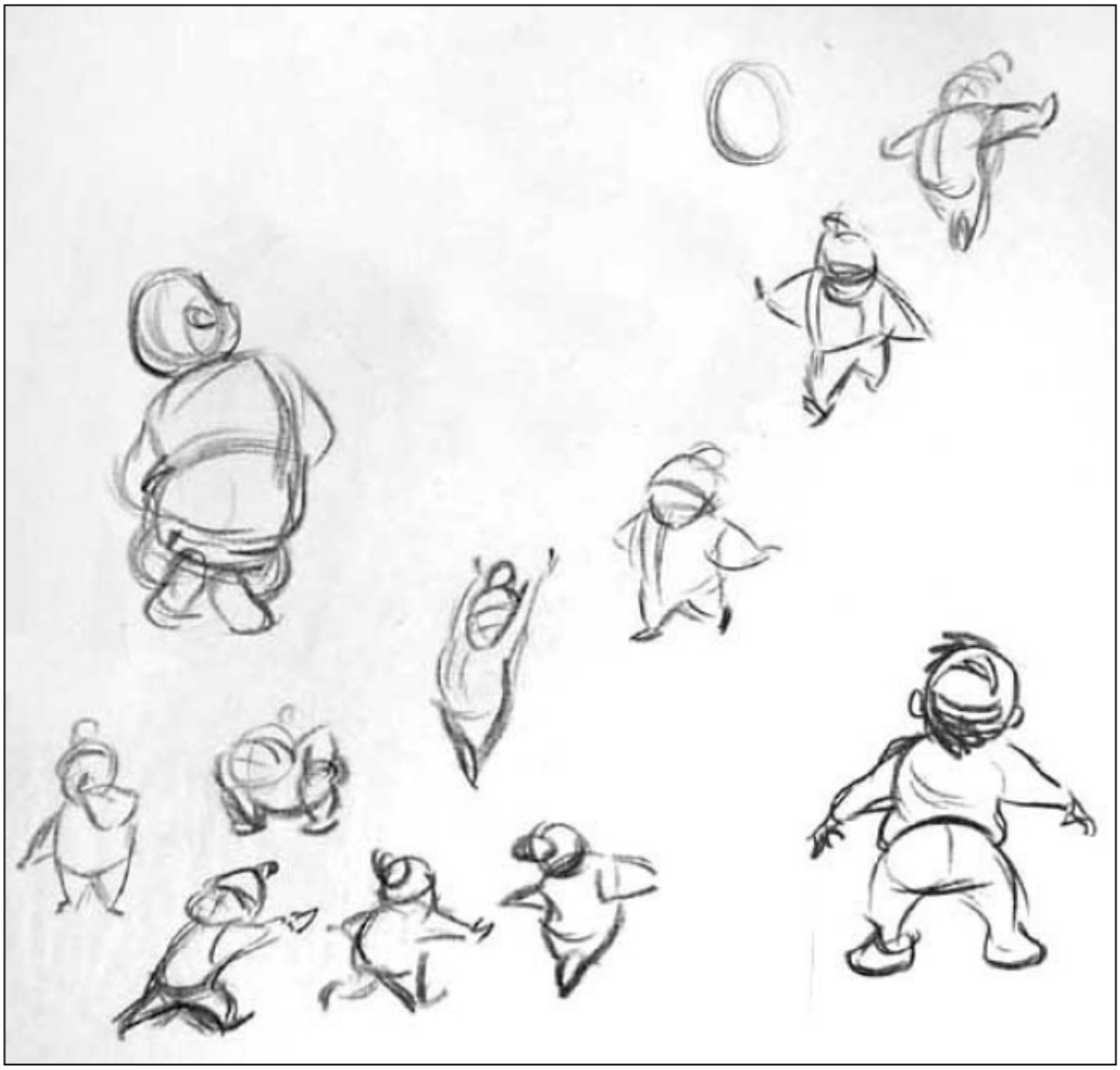


A friend is about to paint a wall, and it seems as though he hunches over to inspect it in the top left drawing. In the next moment, when he is painting, we see he stays hunched. This is probably a habit caused by his height.

If you have ever been on a swing, you know how to get it moving. It's all in the chest and legs, as this girl show us. Underneath the drawings I drew representations of how force would change in her body if I were to animate her. The exchange in force from concave to convex is exchanged through the rhythm or "S" curve in the center. That allows for a smooth transition in energy.



These drawings by Mike are so much fun. Look at the simplicity of the shapes and how much squash, stretch, and direction they give the toddler.

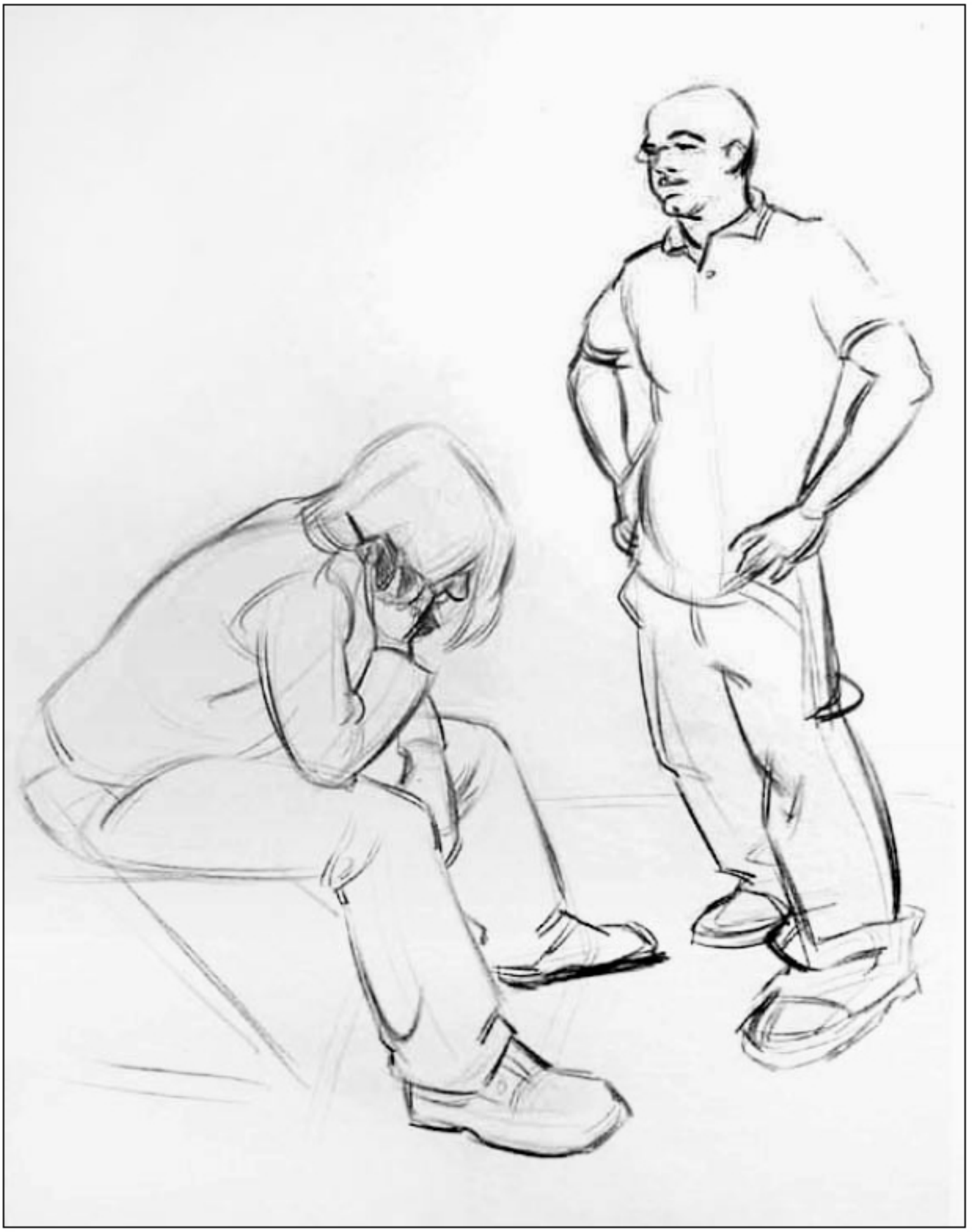
4. *Relationships*

Here we want to be aware of the interplay between two people. Again, as a human being you can watch the people around you in different emotional states and know what they are thinking or feeling. Instead of understanding the idea of one person, though, we now will grasp the main idea of two people. We are creating a new top to the pyramid. Rhythm is now the idea between two people instead of two ideas in the body. Pay attention to negative space again, for in a way it is its own character.

Before going outside with this challenge, I had two models pose nude at the same time so the clothing would not distract the students. This way there was concentration on the relationship of forces between the two models.

The story I see here is two people at a table who are leaning forward, but not in each other's directions spatially. She is reading to ignore him while he looks off into space, deep in thought. He covers his mouth to stop himself from speaking. There is the opportunity for focused discussion because of their forces sweeping forward. It is as though they had already spoken to one another and he is preparing to speak again.

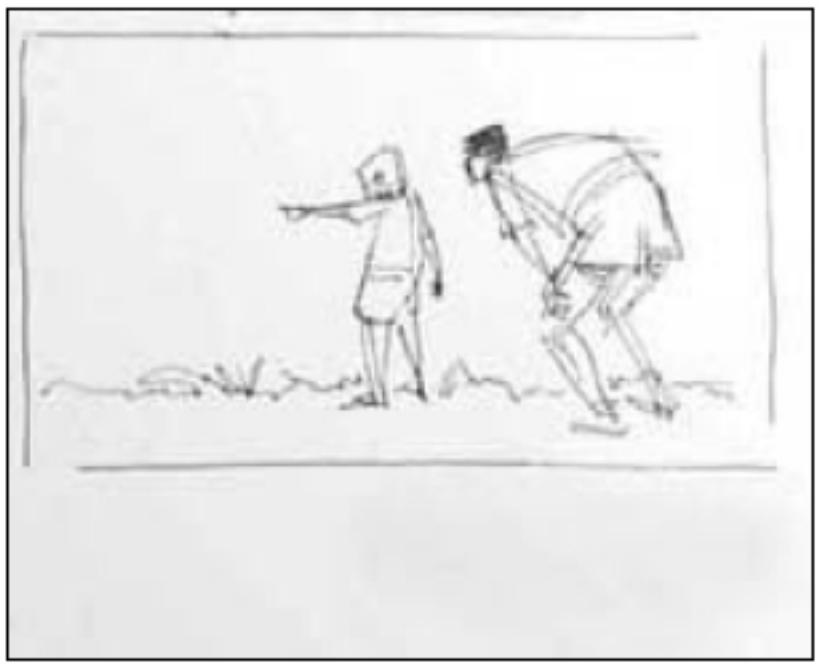
Then I have students draw two clothed models. Here they have the opportunity—in a controlled setting—to see the couple's relationship.



In this drawing, my brother-in-law Chris's height difference automatically gives him visual superiority. He seems to be waiting for Ellen to get off the phone. Two ideas suggest this; one, his hands on his hips, and two, his relationship to her. Her phone conversation is a priority since she is looking away from him, yet she does stare at his shoes, recognizing his presence.

This was a half-hour of watching a boxing match on TV. The contenders go through their own personal dance, caused by actions and reactions between the two. Like dancing cobras. All of the drawings are done in seconds. In the center of the page is a woman who was caught with drugs, and you can see her posture: leaning against the wall.

Try to set the scene that the moment you are observing takes place in. Act as if it is a play that you see before you. Be aware of the props around the characters. Let's go outside again.



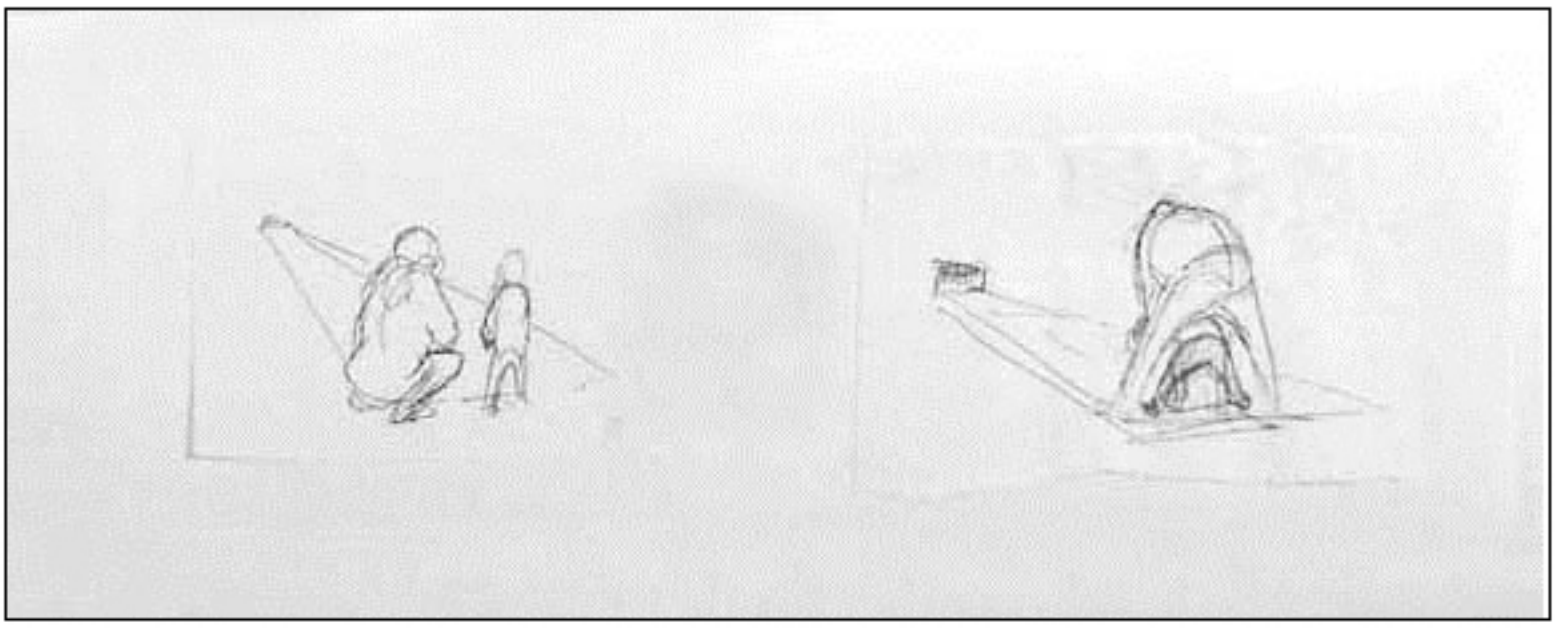
The story of this drawing is about the boy assisting his father in seeing the object that holds his attention. You can see the direct connection between the arch of the father's back and the boy's extended arm.

Here there are many different types of relationships:

1. The photographers to their subjects.
2. The photographers to one another. See their similar posture.
3. The strange way that the down markers are a visual repetition of the photographers.

In the midst of a crazy birthday party, these two women found a moment to talk to one another under the protection of the umbrella. Their silhouettes tell you who is doing the talking and who is listening.

This is a close moment between a mother and her child. She observes the child handling its beverage. The child seems happy as it kicks and looks at its drink.



These are old drawings of mine that tell a great story. Here the mother helps the child bowl. I like the simplicity of the layout. It is like theater to me. Draw only what you need of the environment. The child in the first drawing feels like it is carrying a bowling ball.

5. Crowds

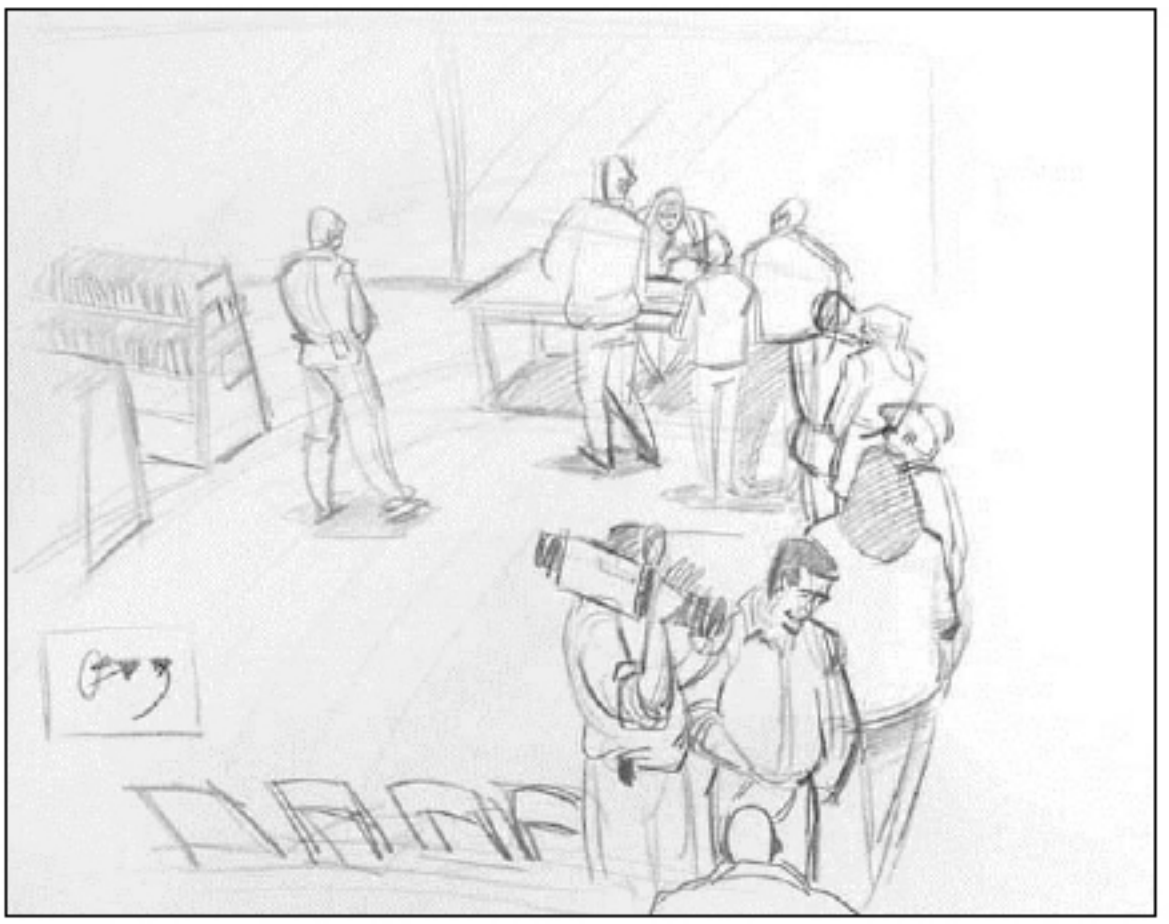
In drawing large numbers of people, see them as an entity. Look for the overall shape of the crowd. See what direction they move in as a whole, like a sea of force. Then break it down into the individuals. Again, this is a hierarchic approach. I have drawn thumbnails for you to see the compositions behind the concepts.

I enjoyed my location for this moment. The drawing feels as though it is about Charlie and the viewer. He is beyond all of the other children at the table and their distractions, yet is looking right at us. The arrows show how the children's gazes ultimately lead to Charlie. The thumbnail and blue directional lines show how the two triangles and the table point us towards Charlie in the center.

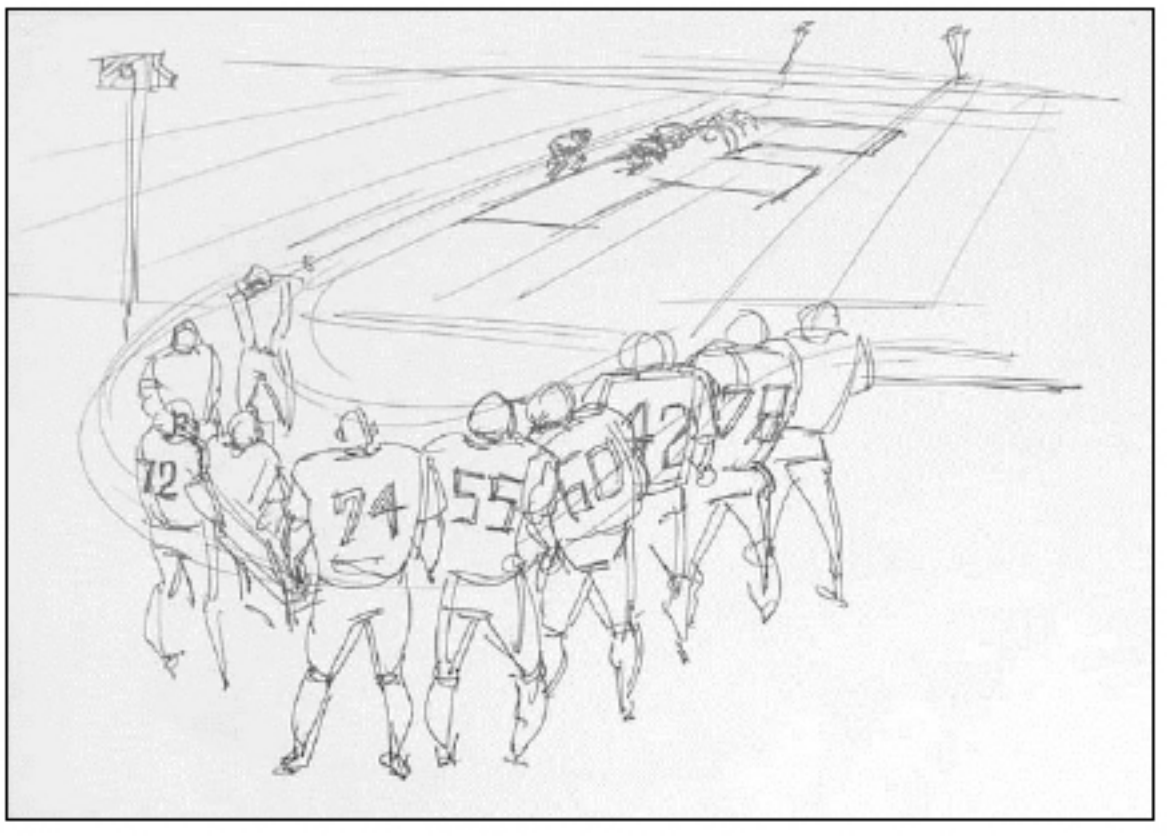
Putting a box around the next few images helps me compose the picture based on the story I want to tell. Here the crowd looks on at the performers. You can see the rough circle I drew around the musicians to assist me in the awareness of the story's focus. I also drew the closest man to us as a way of separating the crowd from the musicians. He gives us depth of field, too. Lastly, I grayed out the crowd so the performers would be brighter and draw your attention to them. Notice the multiple hands on the drummers to give a sense of speed.

Following the top of the people's heads, look at the arrows they create towards the fish. Here the figures are also darkened to focus on the fish.

This composition is encapsulated. Rich—framed between the umbrella and his audience—tells his tale. The curvature of the audience's backs, and direction of their heads, leads us to Rich.



This moment was captured one night at a Barnes and Noble that was holding a book signing. I drew this from the second floor. You can see the perspective by the way the people are stacked behind one another. The curve created by the people leads us up to the author and then past her to the separated individual. His attention to her brings us back. Look at the thumbnail for clarification of this idea.



See how I went after the moon shape created by the football team and how it directs us out to the field.

Texture of line is a great way to add more character and opinion to your work. Your drawing constitutes a visual medium, yet you have the power to make a viewer understand how a fabric feels or how heavy something is. You have the opportunity to experience more feelings as an artist because of this.

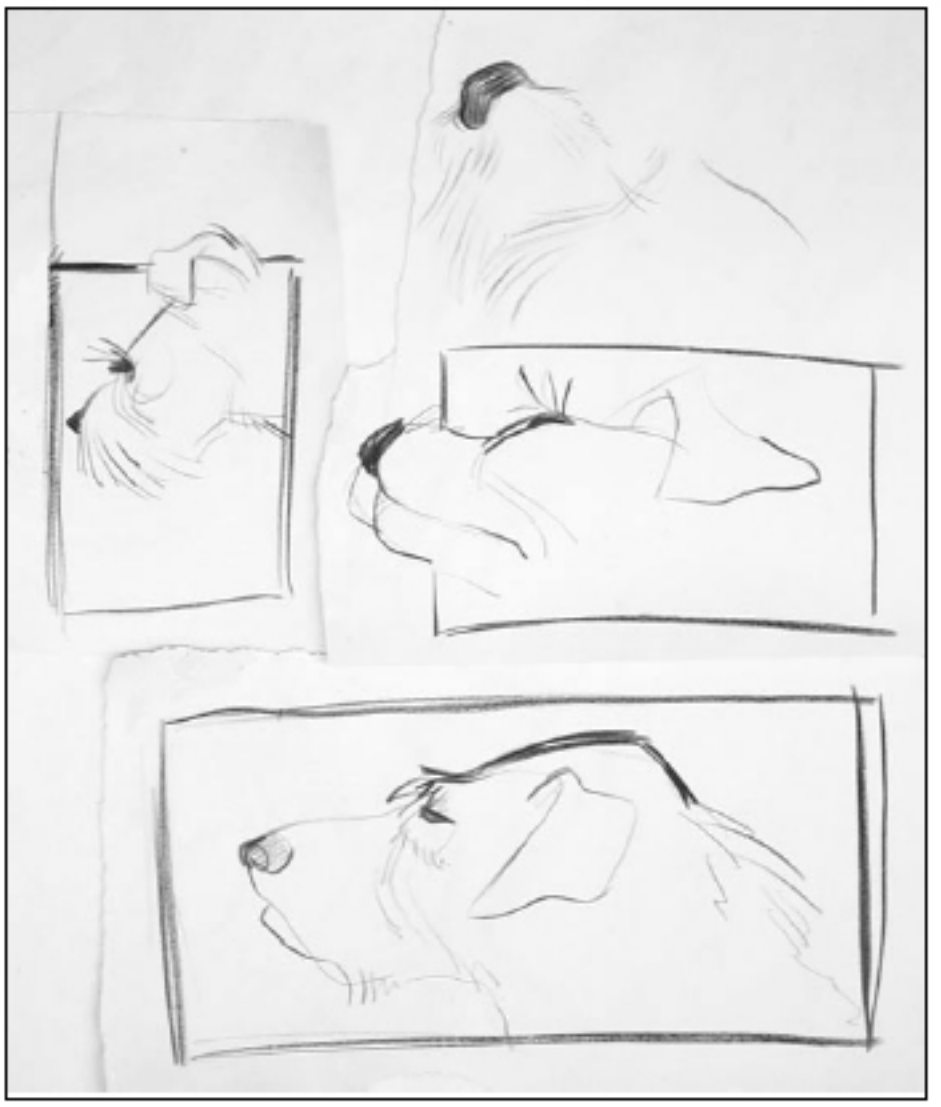
Chapter Six: Animals

A. Comparative anatomy

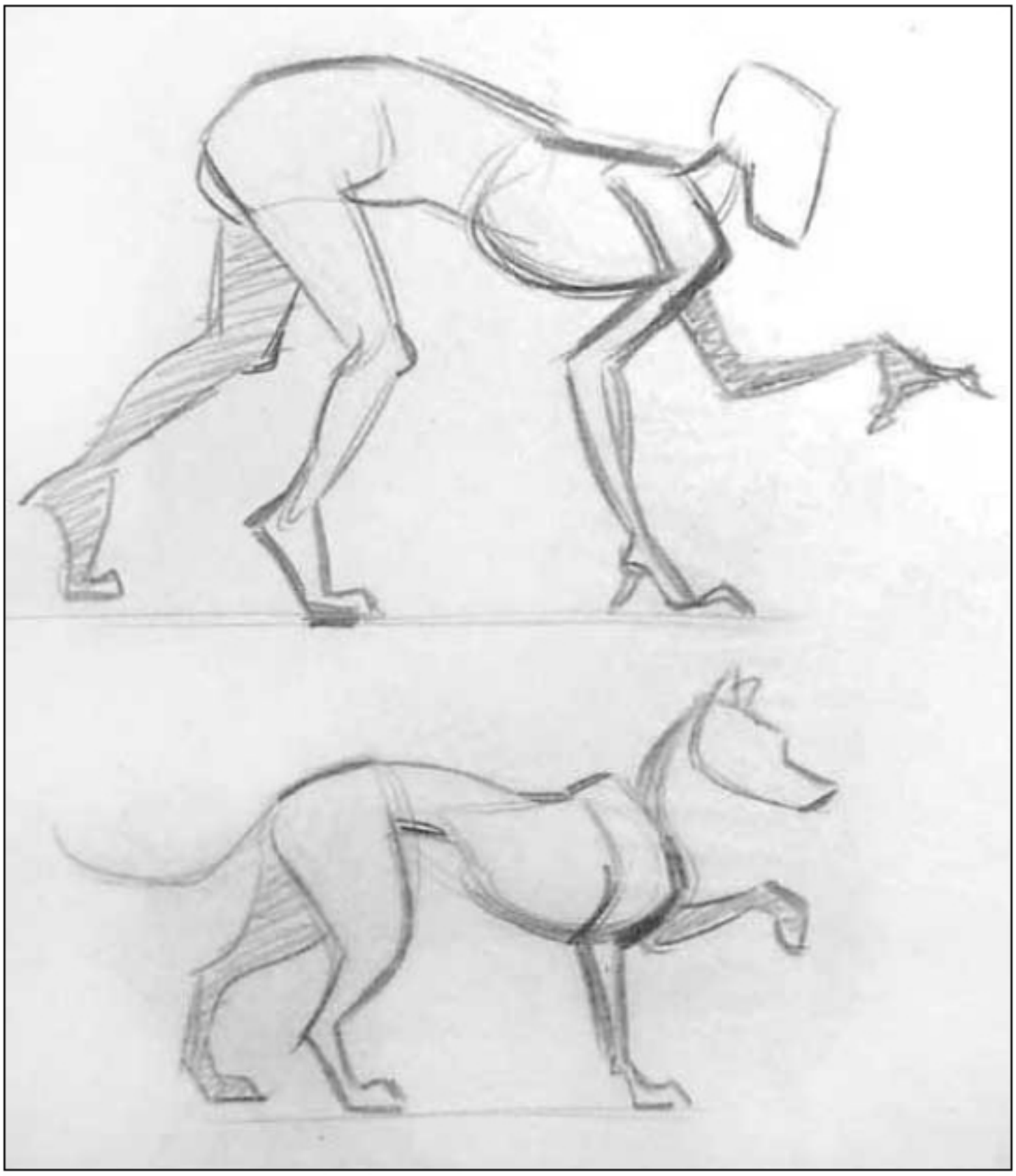
Drawing animals on location can be more challenging than drawing people on location. The first reason is that it is harder to relate to them. They move faster and obviously in a different manner than us. How different? Not as different as you may think.

The way I was taught to understand animals was to compare them to us, bring them into our world. The first step in accomplishing this is in comparing our anatomies. Once you can relate an animal's anatomy to your own, you will understand their body language and in turn, their actions.

Ken Hultgren's book "The Art of Animal Drawing" is a great book on this subject. He touches upon force and covers a variety of animals. His drawings of horses are magnificent.



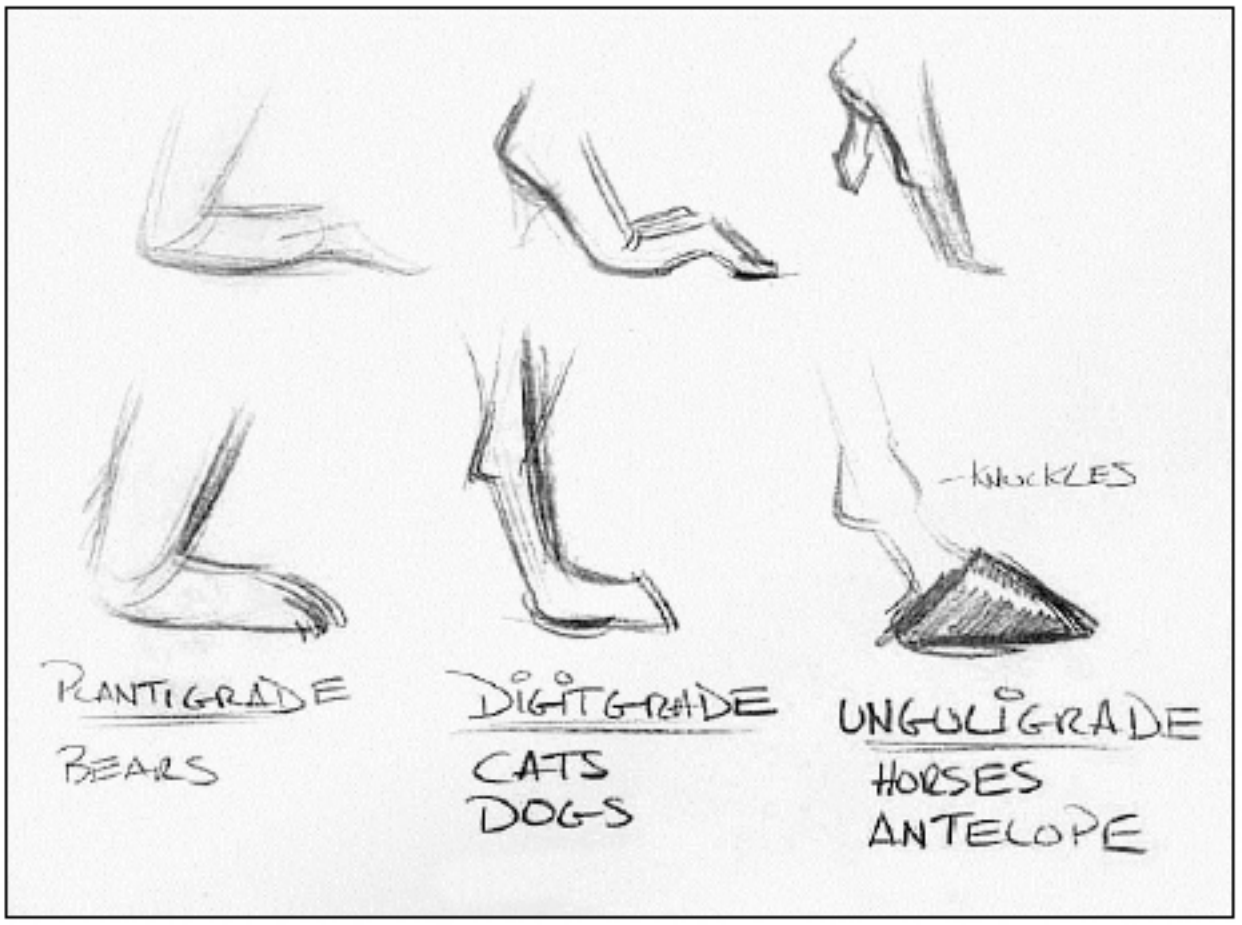
Here are some head drawings of Adrianne that I adore. Look at the expression in the bottom drawing and the different textures, which are what I was mainly after. So, man's best friend will be the first animal we compare to.



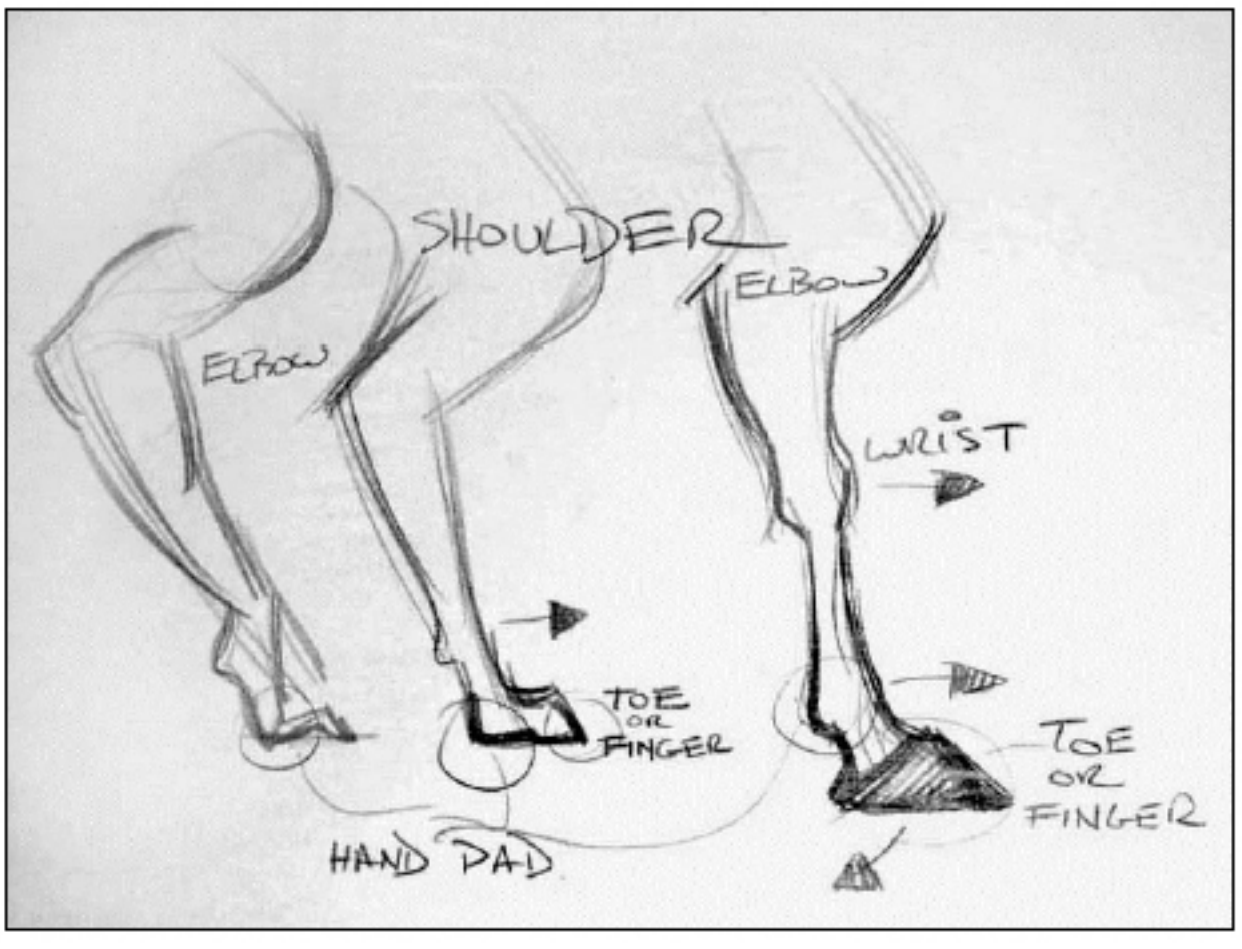
Let's look at a comparison between man and dog. This comparison works for all animals with paws but not hoofed. Here is a list of important ideas to see:

1. Look at how similar a dog's anatomy is to a man's on all fours. Look at the shoulders and elbows in both.
2. Notice the wrist. A dog cannot bend his paw upward like we can. This helps lock the leg when he is standing on it. His paw rests on the pad of our hand.
3. In the back leg, the dog walks on what would be the ball of our foot. The hip and knee relationship is similar.

For the most part, mammals fit in three major categories: plantigrade, digigrade, and unguligrade. It is not so important that you remember these terms, but remember the skeletal differences between the three so your comparison to us is correct.

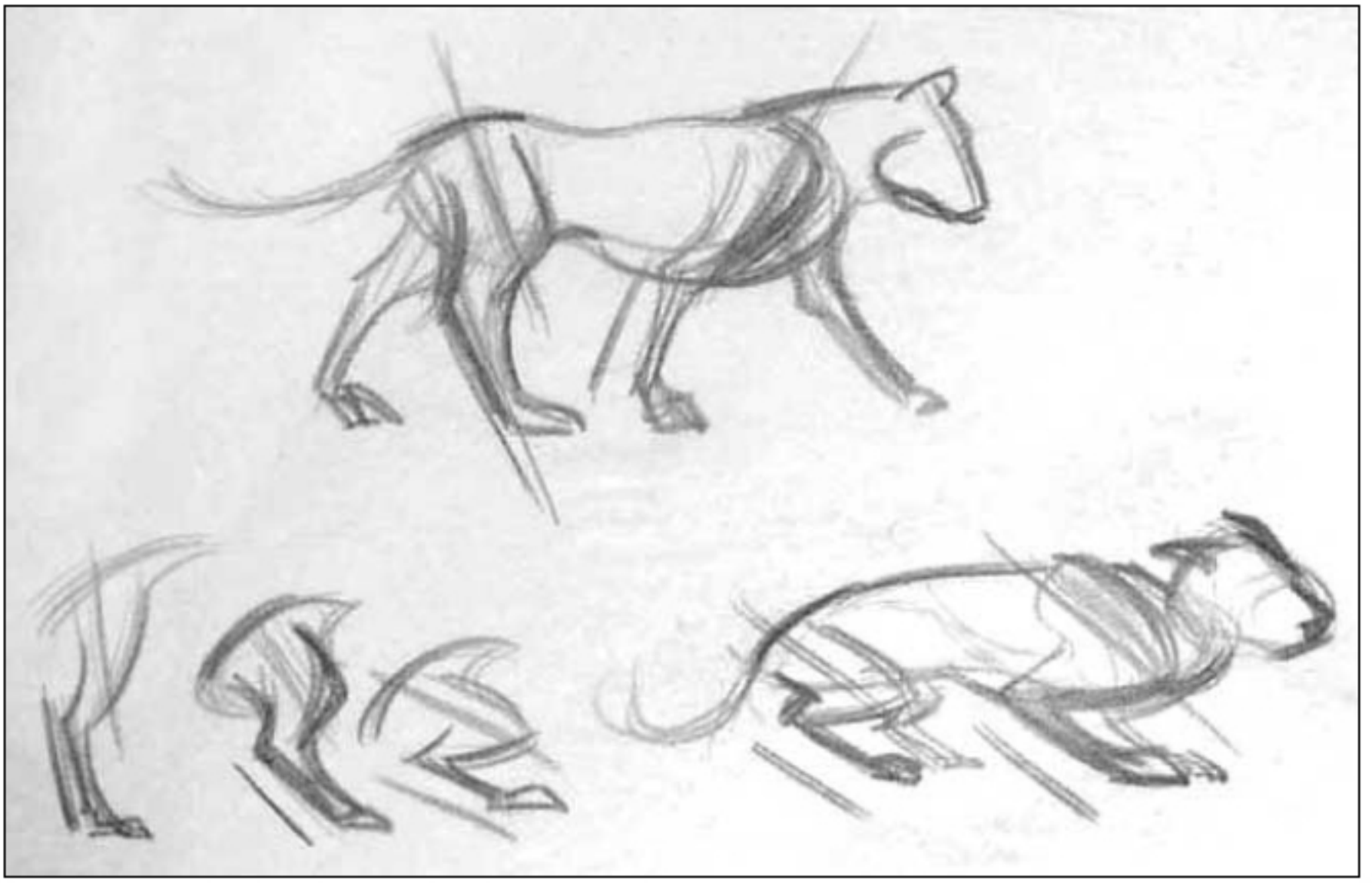


These three examples show you how the three main categories of mammals' "hands" work relative to ours. Humans are plantigrades. We plant our whole foot down on the ground. Digigrade animals walk on the ball of their feet and hands. In the unguligrade example, the joint above the hoof is like our knuckles. These animals walk on the tips of their toes. The foot has the same changes in it as the hand does amongst the three examples.



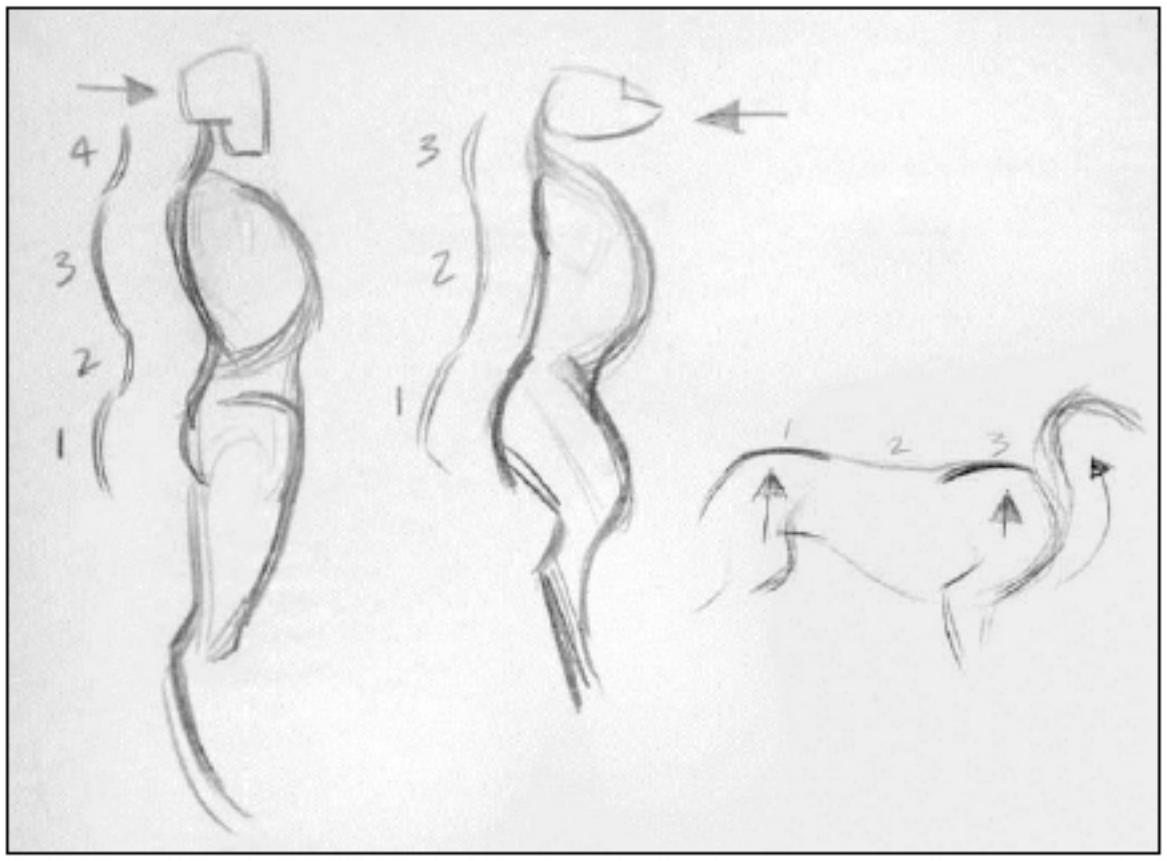
Look at the change in the hoofed animal versus the humans and dogs. The "wrist" is higher in the horse, which makes it seem as though it runs on its fingertips.

Looking closely at the limbs of both subjects, see where the shoulder, elbow, and wrist are in the dog. Of great importance is noticing how the angle of the shoulder is the same as the angle of the forearm. These parts of the dog's front and back legs stay parallel unless the dog is on its back and its limbs are not operating against gravity.



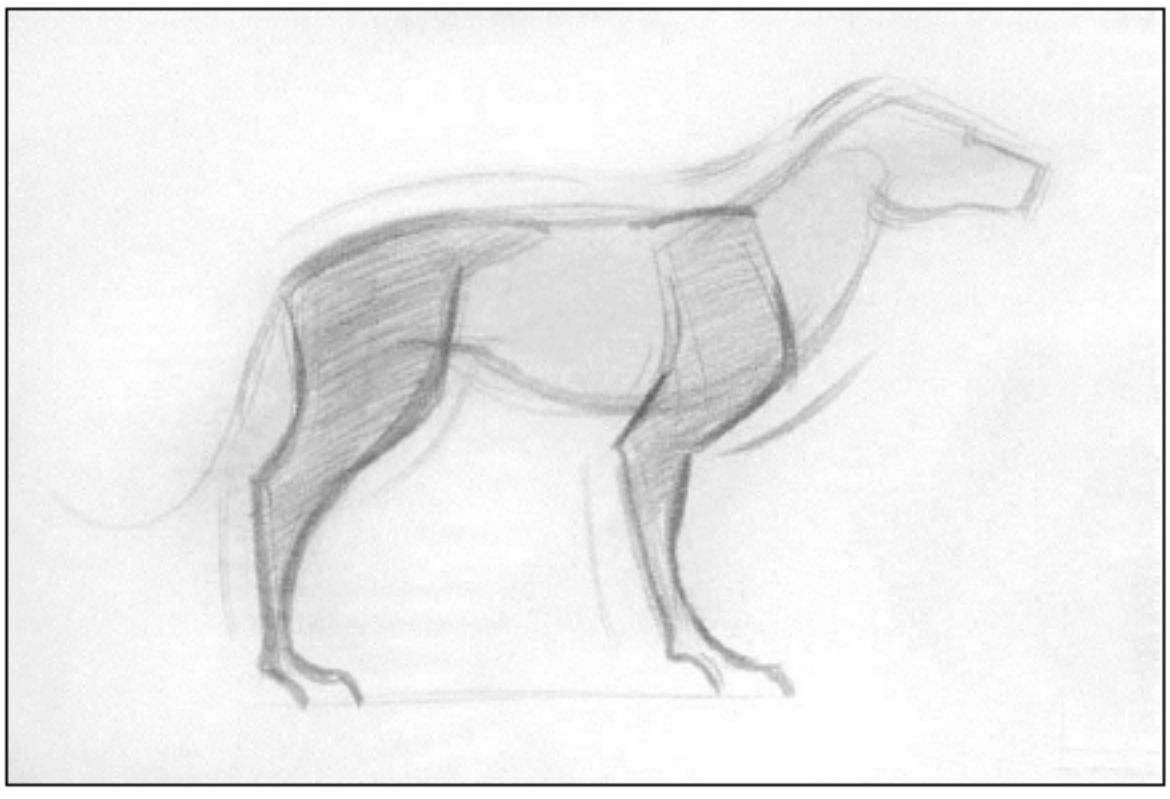
1. On this page, the drawings on the bottom left show how the back leg operates with this parallel concept through a large range of motion.
2. On the right is a drawing that shows how all four legs are working.
3. I created the drawing on top to show you the mechanics of a pawed animal. The cat's right side, in this case, has the legs in a closed scissor position where the left side is open. By doing this scissoring action to the one side of the body at a time, the animal walks. Another way this was explained to me was to think of the back leg kicking the front leg forward when it took a step.

As I have explained throughout the book, we want to understand the basic rhythm of four-legged animals first.



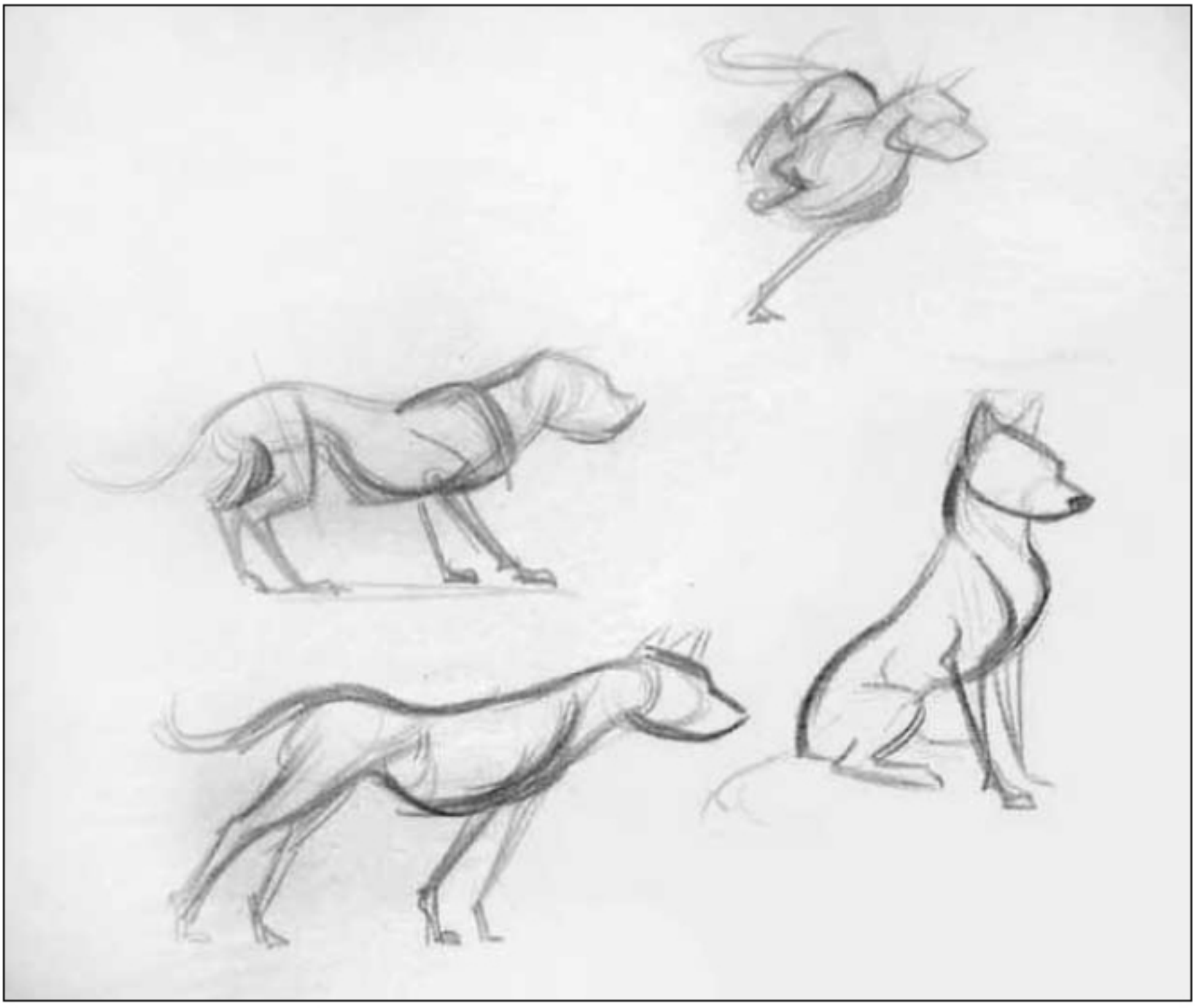
In this drawing, let's look at a comparison in rhythm.

1. The dog actually has one less change in direction of force. Reason being, the dog's ribcage is suspended like a bridge from the hips to the shoulders, or force one to force three. His neck follows the sweep upward of the ribcage to raise the head.
2. Since we stand upright, our forces our different. Our ribcage is not suspended between two forces like the dog's. Our ribcage sits or is cradled in force three of the man.
3. See how this affects the force of the neck in both instances. Our neck projects our head forward where the dog's is projected back, or relative to how a dog actually walks: up away from the floor.



Here is an example of seeing shape in the dog. In Ken Hultgren's book "The Art of Animal Drawing," he makes a point of splitting animal bodies into parts. This helps to see how the major masses are creating the animals' figures and the different shapes of the parts.

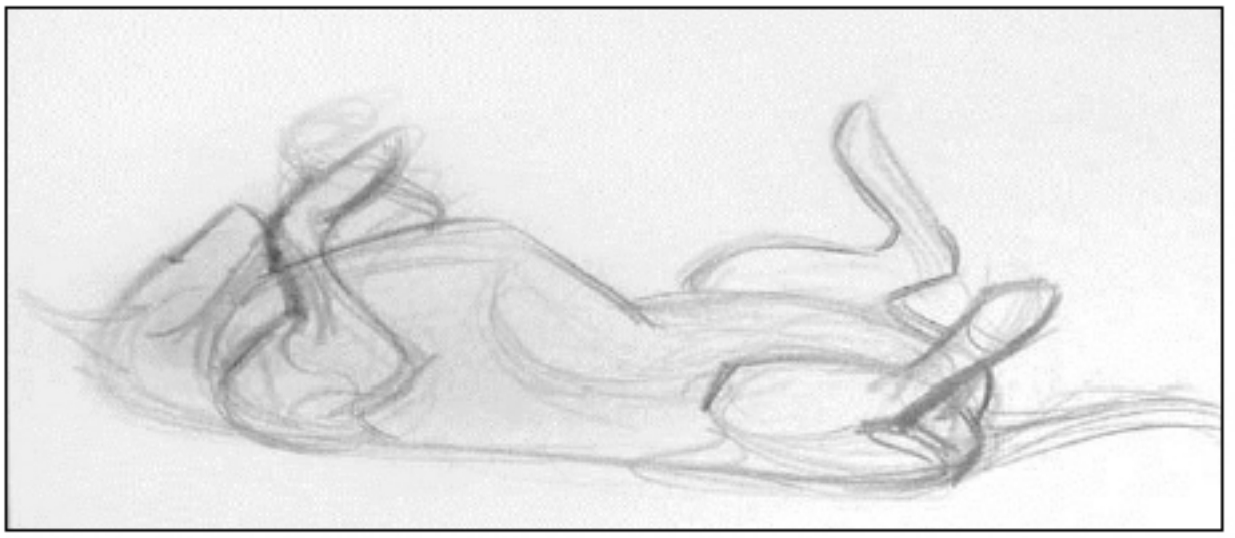
Here I have shaded the fore and rear quarters for you to see the effective shapes and their relationship to the dog's body. When drawing animals, I see the major mass of the animal's body first, i.e., its trunk, and then draw how the legs and their shape are affecting it.



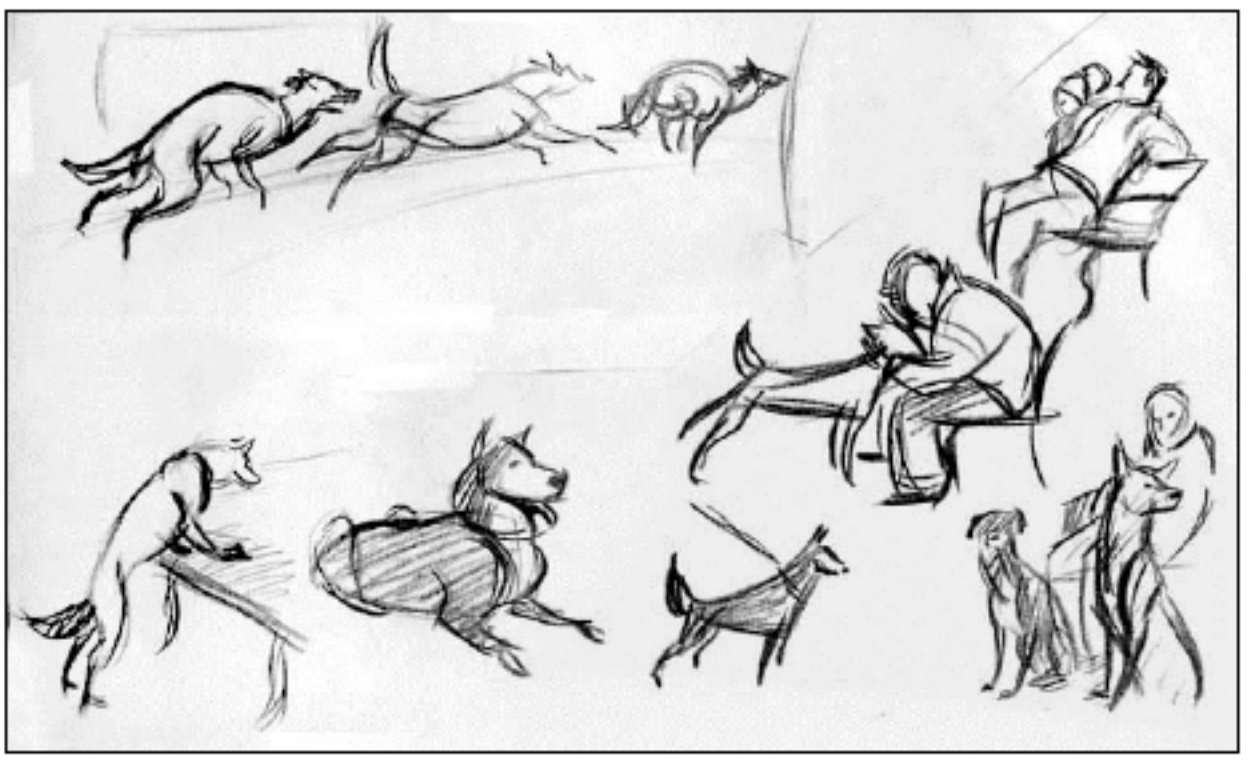
This page has small drawings with big ideas. Look at the dog's body as a whole. See the angles in the legs. See the shapes. Look at the rhythms. Feel the story.

I happen to have a dog named Adrianne. Why Adrianne? My in-laws have a dog named Rocky. Adrianne is great to observe. As I write this book, she has just become one year old. It's fun to see her thinking. Her body language is so similar to ours. It's strange how most expressive animals say the same things in the same ways. When she is happy, she jumps and wiggles around; when she is punished or sad, she droops her head down or sighs. Curious or alert, she becomes wide eyed and stands at attention. As every pet owner will agree, each animal has its own distinct personality, yet there are definite similarities in physical communication.

In this drawing of my dog, notice the overall shape of her body and how it already possesses rhythm from head to tail. See the flat angle of her back in relationship to the curve of her ribcage. I am happy with the shape of her neck in particular. The straight of the left to the curve of the right sweeps her face in the westward direction. See also how I wrapped her shoulder blade around her body to describe its form.



I enjoy the work and struggle involved here. I did a great deal of exploring to achieve my understanding of how Adrianne's anatomy operated while she lay on her back.



Here is a page of wonderful moments by Mike. Look at the different stories. I love the multiple images of the dog running. Notice the squash and stretch found here. I like the drawing on the bottom right where we see clear perspective from the two dogs sitting like pillars by their owner. Above that is a drawing of man and his best friend.

B. Going to the Zoo

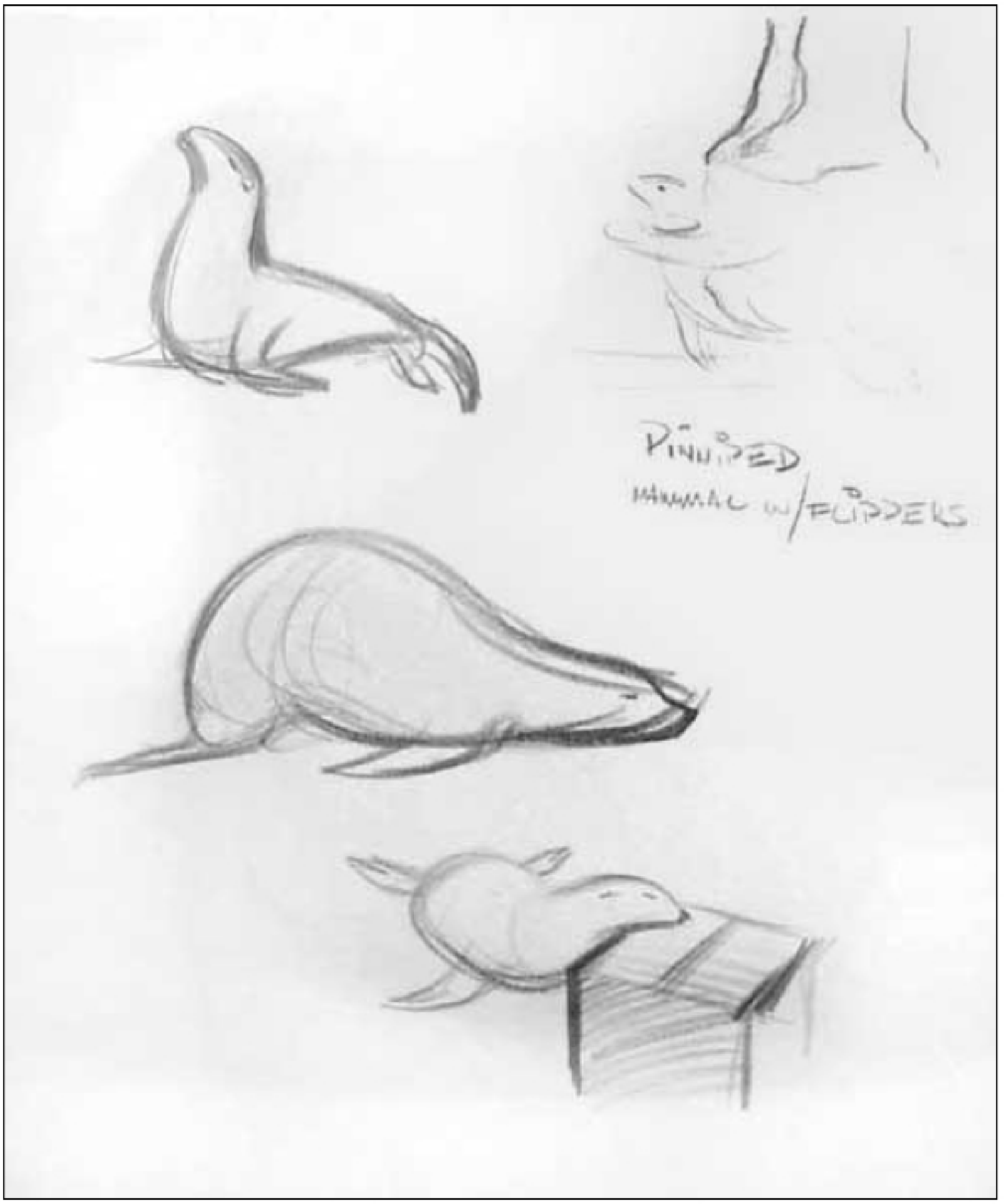
I had not been to The Bronx Zoo since I was in elementary school. Writing this book provoked me to return. It is so much fun to observe the animals. They come in so many different shapes, sizes, and colors, all because of how and where they live.

1. Simplistic Seals

In going to the zoo, I suggest starting with simple animals first. Seals and sea lions are a great place to warm up. Their simple anatomy allows you to focus on their streamline, aquatic-designed bodies. Their simplicity

allows you to focus on shape with force and form. Here you are not weighed down with the complex anatomies and odd shapes that other animals may have.

Try to find the unique qualities of each animal, even within their own families. Look for their specific personalities and what they are experiencing when you are drawing them.

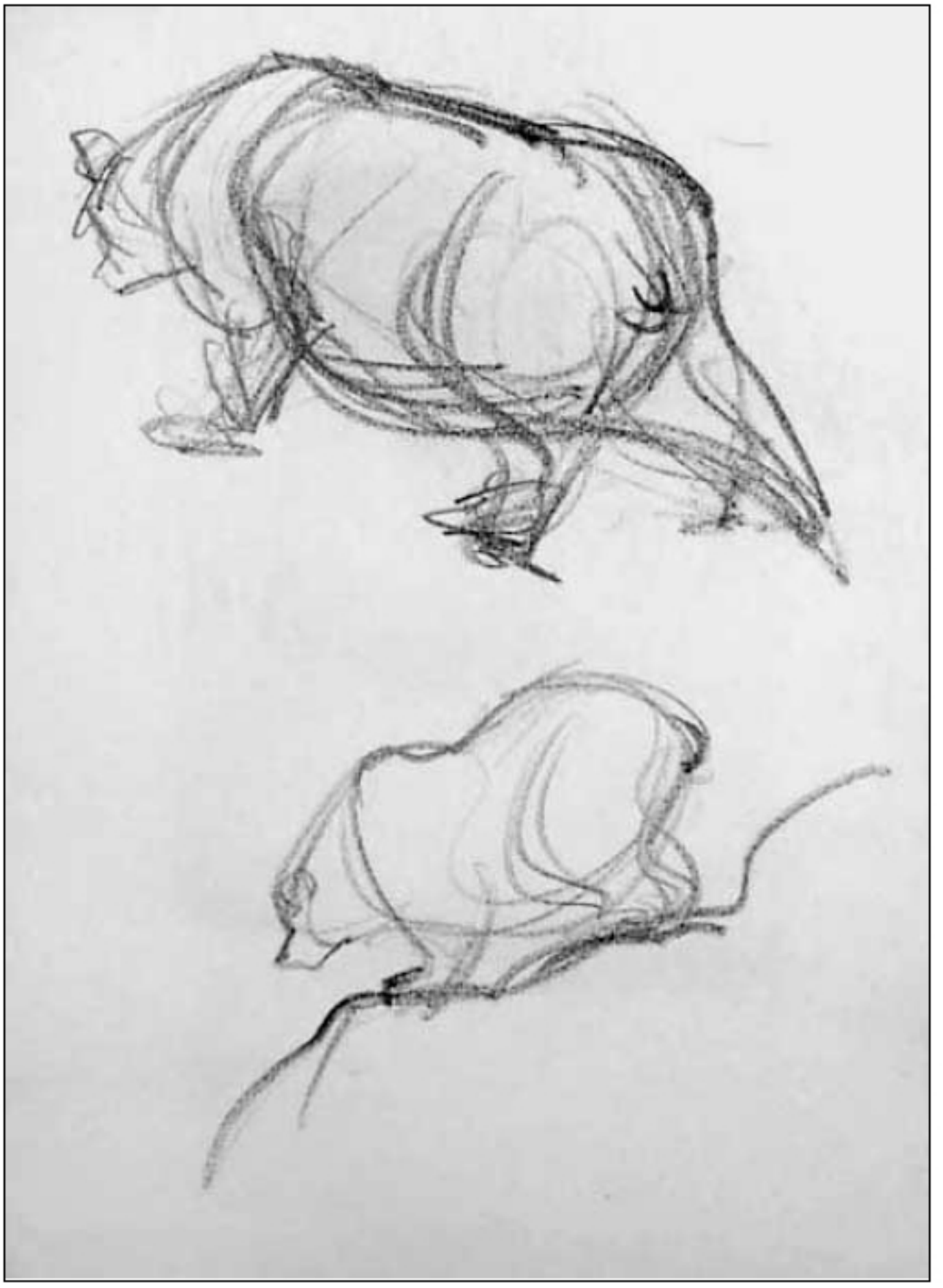


So, here are the seals. Their forms are so flexible and fluid.

Keith pushes story here with the seal war cry. Look at the straight to curve and the feeling of stretch up to the head.

Use your experience with the seals to assist you in drawing the more complicated animals. See the shape of an animal's trunk and head first, then its legs. After drawing the seals, let's go through the zoo from the plantigrade to the unguligrade (or in easier terms, the bears and pawed animals to hoofed animals).

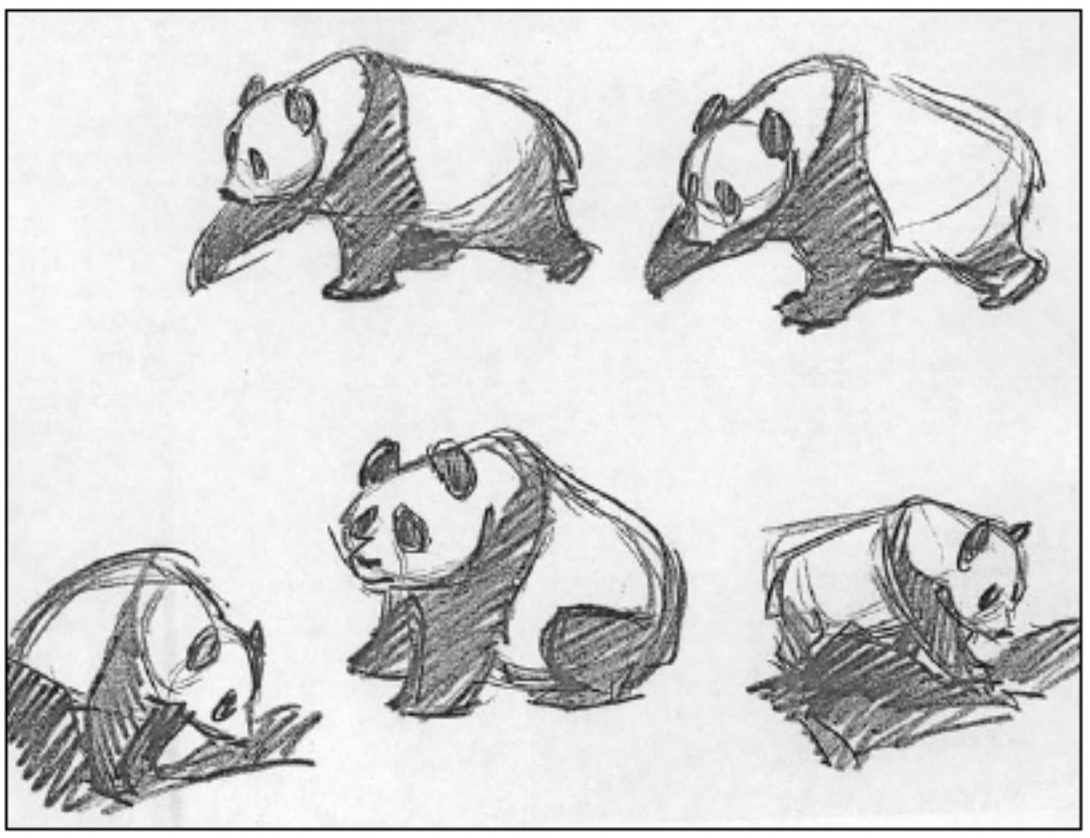
2. Plantigrade



Here are some observations of black bears I saw in the Bronx zoo. In the top drawing, I like the connectivity of the bear's belly to his right rear leg. The perspective the bear is in shows us his form wrapped around the previous idea. On the bottom, we see him making his way down a rock face. As I mentioned earlier in this chapter, you can see the divisions of the bear's body to help see shapes. You must make sure they all operate together in the end.

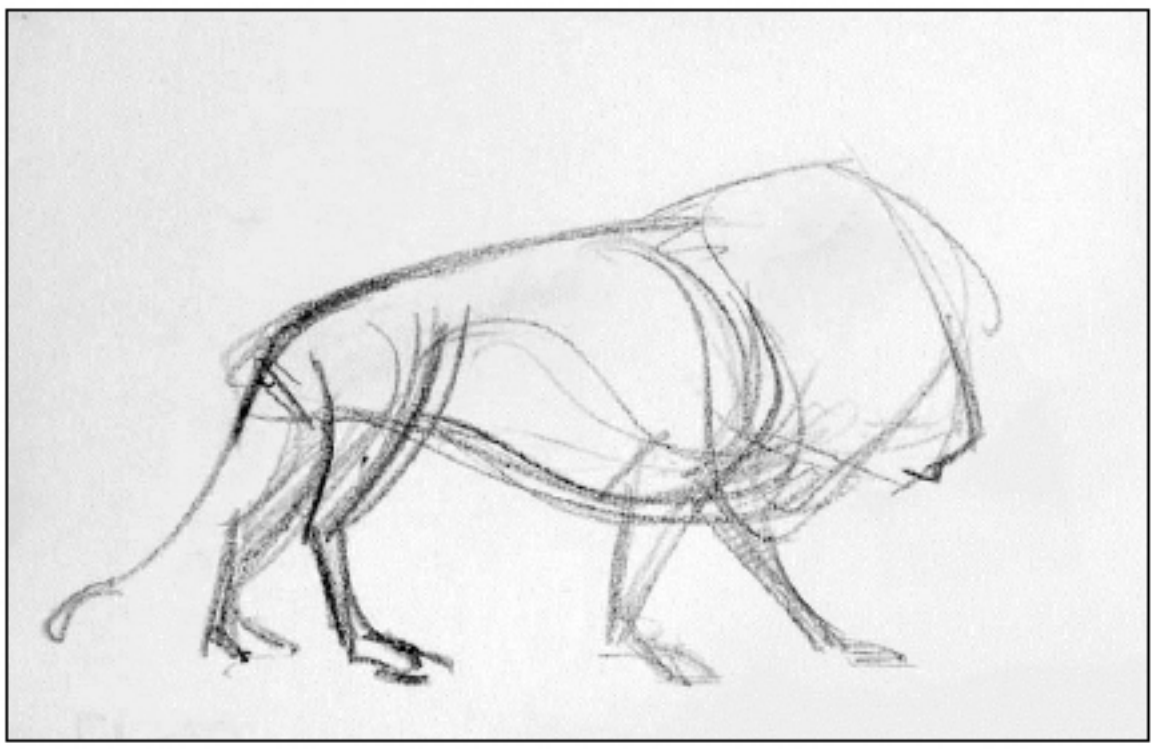
Here lies a polar bear on a hot August afternoon. See:

1. The shape of his arm.
2. The relationship of his back to his stomach.
3. The way his neck and head sweep out of his torso.

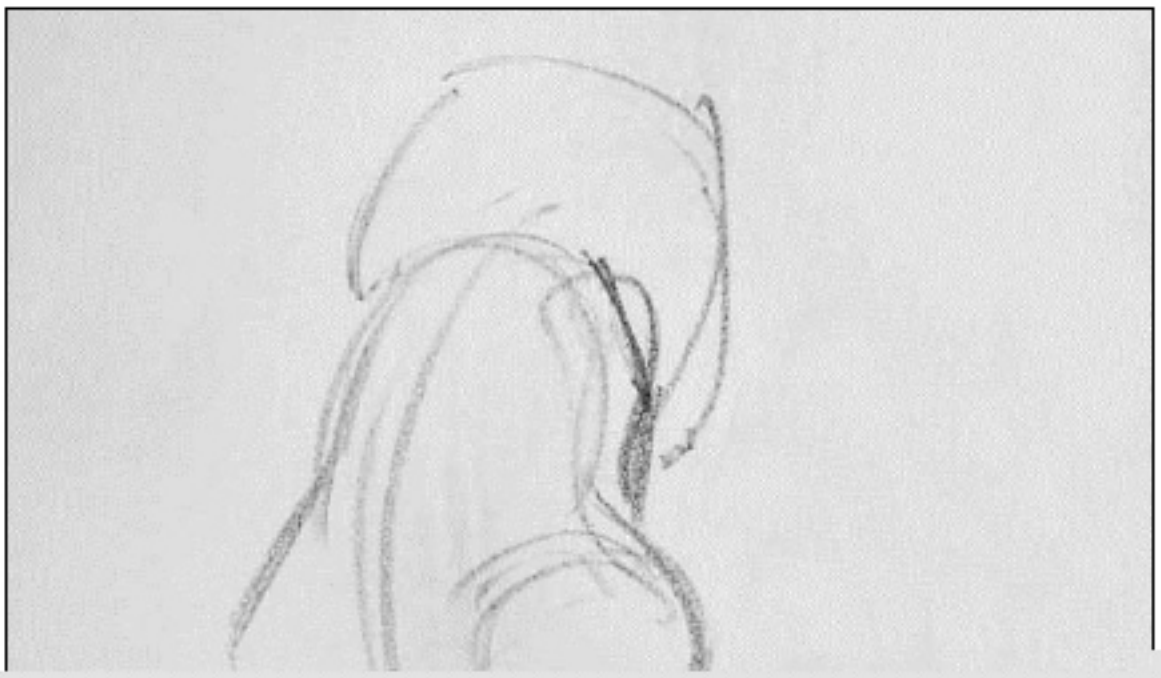


Here are some great panda drawings by Mike. The black shoulder mass helps define form and anatomy as we discussed earlier.

3. Digigrade



Here you can see that the shape of the lion was my approach. I love the size of his mane and head. With digigrade and unguligrade mammals, I make quick straight-line references of the legs for their angles.



I have used this drawing of a young bald eagle to show you our anatomy in this pose. Imagine our skeleton in the other bird.

I end this chapter with these two Guira Cukoos. I like the squash and stretch we see in their bodies. Their relationship makes this visual difference possible.

Enjoy the world of animals. See our similarities and differences. They also have great stories to uncover. Through understanding animals, we can learn more about our selves. You will uncover new mannerisms and personalities that you can use for your creative work.

Closing

I believe that great drawing starts with an understanding of the fundamentals. For me, one of those fundamentals is force. Through this understanding, one is freed up to start forming opinions.

In the end, you want to bring as much of yourself as possible to your work. Have an opinion and fight mediocrity. Learn to understand what you find interesting. That will be where your individuality lies.

"All the knowledge I possess everyone else can acquire, but my heart is all my own."
Goethe

Every day, I take a moment and realize the beauty of the life around me. Drawing is a miraculous vehicle with which to do this. Let it be your window to awareness of the remarkable world around you. In turn, this will revolutionize the world inside of you.

I hope that you have enjoyed this journey with me, and that you're leaving it with something new and inspiring. Keep drawing!

Visit me at my revolutionary drawing school at www.drawingforce.com. I would love to hear from you.

Recommended Reading

The Drawings of Heinrich Kley
Dean Cornwell, The Dean of Illustrators
J.C. Leyendecker
The Art of Hellboy or any of Mike Mignola's comics
Any Disney Book
Claire Wendling's *Drawers*
Frezatto Sketchbook
Any Frank Frazetta book
John Singer Sargent Drawings
Azpiri Sketchbook
Bernie Wrightson's *A Look Back*
Carlos Meglia comics
The Art of Richard MacDonald
George Bridgeman's *Complete Guide to Drawing from Life*
Charles Dana Gibson's *The Gibson Girl and Her America*
Elliot Goldfinger's *Human Anatomy for Artists*
Joe Weatherly's *The Weatherly Guide to Drawing Animals*

Glossary

Applied force	A past directional force transferring itself to the next directional force.
Assymetrical	Not symmetrical or not balanced; having contrast.
Contrapposto	The oblique balance between the torso and the hips
Directional force	A force in the body created by the pull of gravity on human anatomy.
Force	Any push or pull exerted on an organic form because of gravity and the object's posture relative to gravity.
Forceful shape	An asymmetrical shape that moves force from one location to the next in whatever organic form it is describing.
Hierarchy	The concept of thinking from a big idea to a small one. When it comes to drawing force, that means going after the largest rhythms in a pose before the smaller ones.
Leading edge	The edge of a form that leads in the direction of the action it is taking.
Overlap	Where one line stops another, causing the illusion of one form being in front of another.
Rhythm	The beautiful interplay helps at least two directional forces in the body that stay in balance or creates equilibrium against the force of gravity. Rhythm exists in all living things.
Rollercoaster of Rhythm	This term is used to describe rhythm in four-dimensional space. This causes rhythm to not only bounce from side to side, but to travel through and around the organic object being drawn.
Silhouette	The filled-in shape created by the outline of an object.
Surface Line	Line that lands on the surface of the subject to help describe its forceful volumes.
Tangent	The moment where two lines describing two forms touch each other. This causes equality in space of both forms, which in turn takes away the opportunity for page depth.
Torque	Twisting force mostly found between the ribcage and hips.